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## P R E F A C E .

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WHILE it is evident that the "Suggestions for the Consideration of Teachers and Others concerned in the Work of Public Elementary Schools" recently published by the Board of Education must be read, and can with advantage be re-read again and again by teachers and all others concerned in the work of Popular Education—and this not in Elementary Schools alone—yet it does not seem that the volume will need to be kept so constantly at hand for the purposes of reference as the Code itself, and the other regulations for the conduct of Evening and Secondary Schools. A similar comment would justly apply to the Model Course of Physical Training and a few other documents issued by the Board of Education.

The most cursory examination of the "Suggestions" makes it evident that their value will be materially enhanced if the volume be prefaced by a comprehensive index, while many of the paragraphs appear to invite additional notes and others are more easily followed if placed in juxtaposition with the Articles of the Code to which they refer.

The above considerations have led the Editors of the N.U.T. Edition of the Code to publish the Suggestions, Physical Exercises and Inspectors' Districts, with the additions above mentioned, as a separate volume. They believe that in so acting they are meeting the convenience of all who will need both volumes for assistance in their work, and they hope that they may also in this manner facilitate the exercise of that curiosity which has been aroused in a large section of the general public not actually engaged in school work by the recent development of Departmental activity.

The annotations must not be regarded as authoritative—that is, they do not (with self-evident exceptions) incorporate decisions which can be enforced; nor are they of a critical character—indeed, care has been taken to avoid the expression of either approval or disapproval. The Editors take it for granted that in publishing the "Suggestions" the Board of Education presuppose the existence of a thoroughly competent staff of Teachers in every school, and classes of manageable size. Where, however, the notes are supplementary to the "Suggestions," they may be taken as the outcome of that constant touch which we are privileged to enjoy with the work which is being accomplished by Education Authorities and by teachers of all grades in their various schools.

If, perchance, errors have been overlooked in either index or cross references we should be glad to have our attention called to them, while suggestions for the improvement of future editions will be gladly welcomed by

THE EDITORS.

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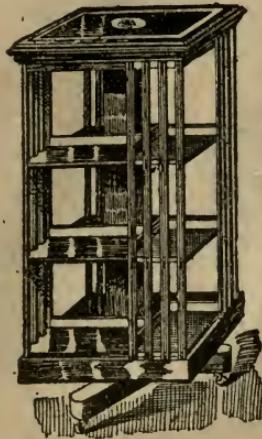
## CONTENTS.

---

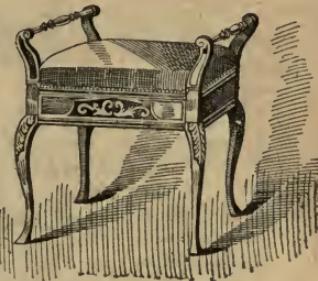
	PAGE
Circular 515 (Physical Exercises) - - - - -	158
Circular 532 (Inspectors) - - - - -	215
Claims for Grant - - - - -	247
Form IX - - - - -	243
Form 60 - - - - -	248
Form 60a - - - - -	249
Form 60b - - - - -	251
Inspectors' Districts - - - - -	219
Physical Exercises - - - - -	162
Physical Syllabus - - - - -	166
Suggestions for the Consideration of Teachers and others concerned in the Work of Public Elementary Schools, 1905 - - - - -	1

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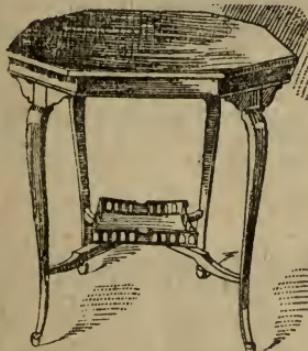
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# INDEX.

PAGE, PAR. &c.				PAGE, PAR. &c.			
<b>Accidents</b> ... ... ...	148	3		For girls ... ... ...	45	2	
<b>Aestheticism.</b> Cultivation of ...	{ 5 70 71	2 1		For infants ... ... ...	{ 24 41	1 1	
<b>Agriculture</b> ... ... ...	52	1		Fractions ... ... ...	{ 44 46	4 2	
<b>Air</b> ... ... ...	109	1		Illustrations ... ... ...	43	3	
Fresh ... ... ...	{ 138 141	8, &c. 5, &c.		In Infant Schools ... ...	42	6	
<b>Algebra</b> ... ... ...	45	3		Measurement ... ... ...	45	1, 3	
<b>Ambulance Work</b> ...	83	5		Mental ... ... ...	41	3	
<b>Analysis</b> ... ... ...	{ 39 40	3 1, 2, 3		Methods of teaching ...	{ 41 44	2, 5 6	
<b>Animal Life</b> ... ... ...	112	1		New schemes ... ... ...	{ 46 48	1 1	
<b>Apparatus.</b> Arithmetic ...	43	4		Practical geometry ...	45	3	
Housecraft ...	84	2		Practical work ...	43	4	
Physical Science ...	55	4		Practice lessons ...	{ 42 45	4 5	
<b>Appendix.</b>				Problems ... ... ...	{ 41 42	5 5	
I.—Arithmetic schemes	98			Schemes ... ... ...	{ 46 48	6	
II.—Observation lessons	105			Schemes A & B ... ...	46	1	
III.—Geography ...	113			Scheme I. ... ... ...	{ 46 98	2 1	
IV.—History ...	121			II. ... ... ...	{ 46 100	2 1	
V.—Drawing ...	126			III. ... ... ...	{ 46 101	2 3	
VI.—Singing ...	128			Suitable to locality ...	18	1	
VII.—Needlework ...	135			Theoretical lessons ...	42	3	
VIII.—Hygiene and temperance ...	186			Use of actual objects ...	{ 42 43	6 4	
IX.—Banking facilities ...	150						
<b>Areas, Measuring of...</b> ...	153	3		<b>Banking Facilities</b> ...	150		
<b>Arithmetic</b> ... ... ...	{ 18 26 41 98	1 3, 4 4 3		<b>Banks, Penny...</b> ...	{ 7 150	1	
Algebra ... ... ...	45	3		<b>Baths</b> ... ... ...	98		
Apparatus ... ... ...	43	4		<b>Bee-keeping</b> ... ... ...	156	4	
Concrete illustrations ...	{ 42 43	6 3		<b>Bleeding</b> ... ... ...	149	5	
Decimals ... ... ...	{ 44 46	4 2		<b>Blossoms</b> ... ... ...	111	2	
First four rules ...	46	2		<b>Bodies, Our</b> ... ...	{ 106 137	10, 11, 12 4	
				<b>Books</b> ... ... ...	{ 27 63 68	2 1 3	
				For Geography ... ...	113	5	
				„ History ... ...	{ 66 122	5 4	
				„ Music ... ...	77	2	
				„ Nature Study ...	53	3	

	PAGE.	PAR. & C.		PAGE.	PAR. & C.
<b>Breathing Exercises</b> ...	{ 75 See also under "Physical Exercises" 77	2 3	<b>Curriculum</b> ...	... { 2 Co-ordination ...	6, 7 1 4 5
<b>Bruises</b> ...	149	1	<b>Cuts</b> ...	... 148	3
<b>Buds</b> ...	{ 111 ( 153	2 1	<b>Dairying</b> ...	... 155	
<b>Building Regulations</b> .	89	4	<b>Deaf Children</b> ...	... 95	5
" <b>The School</b> ...	105	7, &c.	<b>Defective Children</b> ...	... { 93 Action of teacher ...	3 4 9
<b>Burns</b> ...	148	8, 9	Remedial treatment	... 96 96	3 4
<b>Cardinal Points</b> ...	153	3	<b>Defects.</b>		
<b>Carols</b> ...	131	5	Eyesight ...	... 95	5
<b>Character, Formation of,</b>	5	3	Hearing ...	... 95	5
<b>Circulars.</b>			Speech ...	... 95	6
515. Physical Exercises ...	158		<b>Desks</b> ...	... 90	5
532. Inspectors' Districts	215		For Infants ...	... 90	6
<b>Classification</b> ...	{ 14 20	3 2	<b>Dialect</b> ...	... 31	2
<b>Cleanliness</b> ...	{ 92 138 140	4 2 2	<b>Dictation</b> ...	... 34	5
<b>Collective Work</b> ...	{ 25 30 75	1 4 2	<b>Discipline</b> ...	... { 8 92	4, 5 4
<b>Colour</b> ...	{ 71 26 34	2 2 5	<b>Disease, Infectious</b> ...	... 93	2
<b>Composition</b> ...	{ 35 49 29	3 3 3	<b>Doctors.</b>	... { 93 When to send for...	2 3 6
Oral ...	{ 34 35	4, 5 2	Services retained ...	... 97	2
<b>Contents</b> ...	1		<b>Drawing.</b>	... { 49 52 69 126	2 3
<b>Conversational Lessons</b> ...	80	3	Aims of ...	... 69	8
<b>Cookery</b> ...	{ 83 84	2 3	Classic examples ...	... 71	1
<b>Corporal Punishment</b>	9	1, 2	Colour work... ...	... 71	2
<b>Correlation of Subjects</b>	{ 19 22 72	4 6 5	Designing ...	... { 71 72	3 3
<b>Cottage Gardening</b> ...	154		Hand and eye training ...	... 72	6
<b>Country Schools</b> ...	18	2	Infants for ...	... 126	2
<b>Course of Instruction</b>	20	2	Memory ...	... 70	2
			Methods of teaching ...	... 70	1
			Modelling ...	... 70	3
			Model... ...	... { 70 72	1 1
			Objects of teaching ...	... 72	4
			Older scholars for ...	... 126	3, 4
			Outline ...	... { 70 72	1 2
			Outline scheme ...	... { 72 126	7
			Posture ...	... 72	8
			Scale ...	... 153	3
			Schemes ...	... 72	5

	PAGE.	PAR. &c.		PAGE.	PAR. &c.
<b>Dumb Children</b> ... ...	95	5	<b>Experimental Work</b> ...	3 53	4
	137	5		/	
<b>Eating and Drinking</b> ...	138	4	<b>Eyesight</b> ... ...	94 95	9 5
	140	11			
	143	8	<b>Farriery</b> ... ...	156	5
<b>Elementary School, Objects of</b> ... ...	13	2	<b>Fits</b> ... ...	149	8, 4
	4				
<b>Elementary Science</b> ...	5	1	<b>Flowering Plants</b> ...	155	
	105				
Air ... ...	109	1	<b>Flowers</b> ...	111 153 157	2 1
Animal life ...	112	1			
Buds, blossoms, etc. ...	111	2	<b>Folk Music</b> ...	76	2
Common living things ...	107	1			
Measuring, weighing ...	107	9	<b>Forms.</b>		
Our bodies, clothes, and food ...	106	10	IX. ...	243	
Place where we live ...	106	16	60 ...	248	
Plants and their surroundings ...	111	3	60a ...	249	
Rural ...	153		60b ...	251	
School building ...	105	7			
Science of common things ...	108	1	<b>Fruits</b> ...	111 153 157	2 1
Sky ...	108	2			
Study of plants ...	111	1	<b>Furniture, School</b> ...	90	5, 6
Surface of the land ...	109	2			
Water ...	110	1	<b>Games</b> ...	7 81 138 141	3 1 6 2
<b>English</b> ... ...	28		<b>Gardening</b> ...	19 87	1
Collective repetition ...	30	4	Accounts ...	88	4
	75	2	Methods of teaching ...	87	5
Composition ...	49	1	Object of ...	87	
<b>Literature</b> ... ...	28	2	Practical ...	156	
	34	2	Tools ...	88	5
Poetry ...	32	4, 5	Scheme of work ...	156	
	34	3			
Pronunciation ...	31	1	<b>Garments</b> ...	82 83	1, 8, 10 1
	30	4			
Repetition ...	32	4	<b>Gatherings</b> ...	148	7
	33	1			
	34	3	<b>Geographical Readers</b> ...	113	5
Songs ...	6	3			
	75	2	<b>Geography</b> ...	5 56 65 118	1 1 3
Teaching of ...	(131)	4	British Empire ...	64	4, 5
	28	3	Cardinal points ...	59	3
<b>Entertainments, School</b> ...	76	5	Children under 7 ...	58	1
<b>Epilepsy</b> ... ...	96	2	Commercial ...	18	1
<b>Epileptic Children</b> ...	96	2	Connection with other subjects... ...	56	4
<b>Equipment of Schools</b> ...	90	5, 6	Definitions ...	58	7
<b>Examinations</b> ... ...	9		Economic ...	119	5
Abuses ...	10	2	Geographical Readers ...	113	5
External examiners ...	10	2			
<b>Frequency of</b> ... ...	10	7			
In infant schools ...	11	2			
Methods of conducting ...	11	1			
Object of ...	9	3			
Oral ...	10	5			
Periodical ...	11	2			
Uses of ...	10	7			
	9	3, 4, 5			
	10	6			
<b>Example</b> ... ...	6	6			

	PAGE.	PAR.	& C.	PAGE.	PAR.	& C.
<b>Geography—cont.</b>				<b>Handicraft.</b>		
Great Britain ...	60	6		Classrooms ...	85	1
	{ 5	1		Drawings for ...	85	4
	{ 56	4		Equipment ...	86	2
Historical ...	65	6		Exercises ...	85	4
	{ 67	3		Graded exercises ...	86	1
	{ 119	2		Iron work ...	86	6
Illustrations ...	62	1		Object of ...	85	1
	{ 113	6		Scope of instruction ...	85	6
Infants, for ...	58	1		Tools ...	85	5
	{ 114	3		Woods ...	86	3
Map Drawing ...	113	8		Woodwork exercises ...	86	4
Map reading ...	62	4, 6			86	5
	{ 60	1, 3				
Maps ...	62	1, 2, 3				
	{ 113	7				
Methods of teaching ...	56	2				
Object of teaching ...	57	5				
Older scholars ...	61	1				
Ordnance Survey maps ...	62	5				
Outdoor teaching ...	59	1				
	{ 18	1				
	{ 20					
Physical ...	59	4				
	{ 109					
	{ 117	9				
Plans to scale ...	59	5				
	{ 62	1				
Schemes for teaching ...	113	3				
	{ 117	1				
Sketch maps ...	62	1				
	{ 113	8				
Syllabus ...	58	6				
	{ 61	2				
Topographical ...	119	5				
Younger children, for ...	58	1				
Younger scholars ...	58	4				
<b>Geometry, Practical</b> ...	45	3				
<b>Girls.</b>						
Ambulance work for ...	88	5				
Arithmetic for ...	45	2				
Cookery for ...	83	2				
	{ 83	3				
Corporal Punishment of ...	9	1				
Domestic Subjects for ...	83	4				
Housecraft for ...	83	2				
	{ 83	2				
Hygiene for ...	91	7				
Knitting for ...	134	2				
Laundry work for ...	83	2				
	{ 18					
Needlework for ...	82	1				
	{ 134	2				
Do. for girls under 6	91	6				
Physical training of ...	80	5				
<b>Grammar</b> ...	20					
	{ 39	1				
	{ 40					
Analysis ...	40	1				
Parsing ...	40	4				
<b>Grouping</b> ...	15	4				
	{ 16	1, 4				
<b>Hand and Eye Training</b>	72	6				
Needlework as ...	82	4				

# INDEX.

XV

	PAGE.	PAR. & C.		PAGE.	PAR. & C.
<b>History—cont.</b>			<b>Hygiene—cont.</b>		
Reading books ...	67	4	Knowledge of the parents ...	136	3
Reasons for teaching ...	64		Older scholars, for ...	138	8
Selection of topics ...	65	3	Outline scheme ...	136	
Schemes ...	65	3	Person, The ...	137	4
Schemes, A, B, & C ...	66	6	Play ...	141	2
Songs, National ...	76	1	Posture ...	138	5
Visits to places of historical interest ...	66	1	School buildings ...	140	12
Younger scholars ...	66	2	Sleep ...	89	4
	66	3	Sprains or bruises ...	94	5
<b>History and Geography</b> ...	88	2	Sunshine ...	138	3
	58	1	Tobacco ...	139	6
	56	4		147	9
	66		<b>Illness</b> ...	137	6
	67	3		148	3
	119	2	Signs of Infection ...	93	2
<b>Home Influences</b> ...	8	2			
	136	6	<b>Infants</b> ...	21	
<b>Home Lessons</b> ...	26	5	Arithmetick for ...	42	6
	25	6	Desks for ...	90	6
	38	2	Drawing for ...	126	2
<b>Home Reading Union</b>	88	2	Duration of lessons ...	24	2
<b>Honours Boards</b> ...	7	5	Examinations of ...	91	5
<b>Housecraft</b> ...	18		Geography for ...	58	1
	83		History for ...	114	3
Aims ...	91	7	Hygiene ...	6	2
Apparatus ...	83	3, 4	Instruction of ...	138	1
<b>Ambulance work</b> ...	83	5	Kindergarten ...	21	3
Cookery ...	91	7	Knitting for ...	82	2
Laundry work ...	83	3	Needlework for ...	185	1
	83	2	Occupations for ...	135	1
<b>Hygiene</b> ...	91	7	Promotion of ...	22	2, 3
Accidents and illness ...	186		Recreation ...	24	5
Bleeding ...	148	3	Sewing ...	91	6
Burns ...	148	5	Singing ...	128	1
	8, 9		Sleep ...	138	7
Cleanliness ...	92	4	Songs ...	131	3
	138	2			
Cuts ...	140	2	<b>Infectious Diseases</b> ...	93	2
Duty of the school ...	142				
Eating and drinking ...	148	4	<b>Insect Bites</b> ...	149	2
Fits ...	149	3, 4			
Fresh air ...	138	8	<b>Insects</b> ...	153	2
Games ...	141	5			
Gatherings ...	141	2	<b>Inspectors of the Board of Education</b> ...	215	
Girls, for ...	148	7	Addresses of ...	234	
Home influences ...	91	7	Addresses of Junior ...	237	
Home, The ...	136	6	Addresses of sub ...	238	
Illness ...	137	3	Chief ...		
	137		For elementary schools ...	231	
Infants, for ...	148	6	For school's of art ...	229	
Importance of ...	136	1	For secondary schools ...	231	
Insect bites ..	149	2	For technological and evening schools ...	231	
			For training of teachers ...	231	
			Woman ...	231	
			<b>Chief and Divisional.</b>		
			For elementary schools ...	231	
			For technological and evening schools ...	231	
			<b>Circular to</b> ...	215	
			<b>Districts of</b> ...	219	

	PAGE.	PAR.	&C.	PAGE.	PAR.	&C.
<b>Inspectors</b> —cont.				<b>Manual Instruction</b>	85	1
Domestic subjects	231			See also Handicraft		
Drawing	230					
Manual instruction	230					
List of, in Local Education Areas	219					
List of subordinate staff	232					
Rural education and agriculture	231					
Schools of art	229					
Special subjects	230					
Training college	229					
Women	230					
<b>Instruction.</b>				<b>Maps</b>	60	1, 3, 6
Course of	20	2		{ 124	1	
Of Infants	21	1		For Geography	113	7
Older scholars	25	7		For History	67	8
Younger scholars	24	6		Memory	113	8
Scope of	17	1		Ordnance	62	5
<b>Intellectual Faculties.</b>				Reading of	62	7
Training of	4	3		Scale	62	2
<b>Irish Songs</b>	76	2, 3		Sketch	62	1
	{ 132	2		{ 113	8	
<b>Ironwork</b>	86	6				
<b>Kindergarten, Occupations</b>	21	3				
<b>Knitting.</b>				<b>Medical Officers</b>	97	2
For Infants	82	2		See also Doctors.		
	{ 135	1				
For Girls	135	3				
<b>Land, The surface of</b>	109	2				
<b>Laundry Work</b>	83	2		<b>Memory</b>	4	4, 5
<b>Leaves</b>	111	2		" Drawing	70	2
	{ 153					
<b>Lessons</b>	29	4		<b>Mensuration</b>	45	1, 3
Conversational	29	5				
Duration	24	2		<b>Mental Arithmetic</b>	41	3
Practice	31	1				
Theoretical	32	3		<b>Methods of Instruction.</b>	3	1
	2	4		Infants	21	
<b>Libraries</b>	27	2		Children age 3 to 5	22	
	{ 63	1		Children age 5 to 7	22	
	68	3		Younger Scholars	24	
<b>Lighting</b>	90	1		Older Scholars	25	
<b>Literature</b>	28	2				
	{ 34	2		<b>Methods of Teaching</b>	3	2
<b>Log Book Entry</b>	90	F'tnote		<b>Modelling</b>	70	3
<b>Machines</b>	154			<b>Modulator</b>	77	2
				<b>Monitors</b>	7	4
				<b>Moral Training</b>	6	1, 5
					7	1
				<b>Multiplication Tables</b>	43	2
				<b>Museum, School</b>	54	1
				<b>Music</b>	6	3
					75	4, 5
				Folk Music	76	2
				Reading Books	77	2
				School Music	76	5
				Tonic Sol-fa and Staff Notations	77	1
				<b>Musical Theory</b>	76	6
				<b>National Home Reading Union</b>	38	2
				<b>Natural History</b>	51	2
					53	1

	PAGE.	PAR.	& C.	PAGE.	PAR.	& C.
<b>Nature Study</b> ...	{ 5 18 50 105	1		<b>Observation Lessons—</b> <i>cont.</i>		
Age for commencing	51	1		In elementary science	... { 48 55	1
Agriculture ...	52	1		In infants' schools	... 47	1
Choice of subject ...	51	2		In lower classes	... 47	2
Collecting ...	{ 53 54 51 53 54 55	4 4 2 1, 4		Land, The surface of	... 109	2
<b>Experiments</b> ...	{ 53 54 55	1 3 2		Leaves	... 111	2
Foundations of scheme ...	52	2		List of topics	... 105	
In town school ...	54	3		Measuring	... 107	9
List of topics ...	105			Our bodies	... 106	10
Methods of teaching ...	51	2		Our clothes	... 106	13
Object of teaching ...	50	4		Our food	... 106	14
Practical work ...	51	2		Plants	... 111	3
Reading books ...	53	3		School building	... 105	7
Rural Elementary Science	{ 52 153	2		Science of common things	... 108	1
School museums ...	54	1		Seeds	... 111	2
Sketches ...	52	3		Sky	... 108	2
Syllabuses ...	52	2		Suitable subjects	... 48	4
Technical terms ...	53	2		Their aim	... { 47 48	1
Younger children, for	51	1		Visits to museums	... 49	3
<b>Needlework</b> ...	{ 82 135			Water	... 110	1
Children with weak eyes ...	{ 82 95	.5 5		Weighing	... 107	9
Cutting out ...	82	8, 9		Where we live	... 106	16
Fixing ...	82	8				
For half-timers ...	83					
Garments ...	{ 82 83	1, 8 1				
Girls, for ...	135	2				
Graduated scheme ...	135					
Infants, for ...	135	1				
Mending ...	82	7				
Materials ...	82	3				
Scheme ...	{ 82 135	10				
Stitches ...	82	3, 7				
Young children ...	82	2				
<b>Neglected Children</b> ...	{ 94 97	9 1				
<b>Nurses (Schools)</b> ...	{ 93 94 97	2 2				
<b>Object Lessons</b> ...	{ 47 See Observation Lessons.					
<b>Obligatory Subjects</b> ...	17	3				
<b>Observation Lessons.</b>	{ 47 48 105					
Air ...	105					
Analytical and synthetical methods ...	48	6				
Animals ...	107	1-8				
Buds ...	111	2				
Blossoms ...	111	2				
Fruits ...	111	2				
Heating ...	107	9				
Indirect results ...	48	3				
				<b>Observation Lessons—</b> <i>cont.</i>		
				In elementary science	... { 48 55	1
				In infants' schools	... 47	1
				In lower classes	... 47	2
				Land, The surface of	... 109	2
				Leaves	... 111	2
				List of topics	... 105	
				Measuring	... 107	9
				Our bodies	... 106	10
				Our clothes	... 106	13
				Our food	... 106	14
				Plants	... 111	3
				School building	... 105	7
				Science of common things	... 108	1
				Seeds	... 111	2
				Sky	... 108	2
				Suitable subjects	... 48	4
				Their aim	... { 47 48	1
				Visits to museums	... 49	3
				Water	... 110	1
				Weighing	... 107	9
				Where we live	... 106	16
				<b>Occupations, List of</b>	... 22	2, 3
				<b>Open Day</b> ...	... { 7 97	2 1
				<b>Oral and Written Com-position</b> ...	... { 26 29 34 35 49	2 3 4, 5 2 1
				<b>Ordnance Survey.</b>		
				Maps ...	... 62	5
				<b>Organised Games</b> ...	... { 7 81	3 1
				<b>Organisation</b> ...	... { 14 16	1 1
				In an area ...	... 16	1
				In small schools	... 16	4
				In large schools	... 16	3
				<b>Overpressure</b> ...	... 20	2
				<b>Parental Duty</b> ...	... 97	1
				<b>Parsing</b> ...	... 40	4
				<b>Part Songs</b> ...	... 78	1
				<b>Pedagogic Literature</b>	... 2	4
				<b>Penny Banks</b> ...	... 150	1
				<b>Phonetic Method</b> ...	... 32	1
				<b>Physical Exercises</b> ...	... { 5 77 158 162	2 3
				Circular re ...	... 158	
				Syllabus of ...	... 162	

PAGE. PAR. &amp;C.

PAGE. PAR. &amp;C.

**PHYSICAL EXERCISES.**

N.B.—Subjoined is the Index to the Model Course which commences on page 162.

<i>Preface</i> ...	162
<i>Introduction</i> ...	166
Breathlessness	26
Children to be excluded	25
Classification	19
Directions to teachers	34
Dress	32
Educational effect	14
Exercises, Additional	29
Exercises, Control	13
Exercises, Corrective	12
Exercises, Nutritive	5
Exercises, Recreative	17
Exercises, Selection of	23
Exercises, suitable for infants	27
Exercises, suitable from 7 to 12	25
Exercises, suitable for over 12	28
Exercises, with music	30
Formal lessons	16
Fresh air	31
Importance of positions	12
Nasal breathing	9
Physical effect	4
Purposes of the course	1, 2
Separate instruction for elder girls	33
<i>Arm flexions and extensions</i> ...	177
Arms downward stretching	28
Arms forward stretching	29
Arms sideways stretching	30
Arms upward stretching	31
Arms stretching in succession	32
Arms stretching upward and downward alternately	33
Astride, arms sideways stretching	35
Astride, arms upward stretching	34
Foot forward, arms upward stretching	37
Foot outward, arms upward stretching	36
<i>Balance exercises</i> ...	178
Arms sideways stretching in knees bend position	41
Arms upward stretching in knees bend position	42
Foot bending and stret hing	46
Head turning in knees bend position	40
Heels raising	38
Knee raising	45
Knee raising and backward stretching	48
Knee raising and forward stretching	49
Knees bending and stretching	39
Leg sideways raising	44
Leg sideways raising with arms sideways raising	43
<i>Breathing exercises</i> (see "Deep Breathing Exercises") ...	191
<i>Class arrangements</i> ...	172
Dismissing a class	13
Dressing a class	4

**Physical Exercises—**

<i>cont.</i>	
Formation of a class	172
Marking time	173
Numbering	173
Opening and closing ranks	174
Position of attention	172
Standing at ease	172
Stepping backward	173
Stepping forward	173
Stepping sideways	173
Turnings at the halt	173
Turnings while marking time	173
<i>Deep breathing exercises</i> ...	191
Combined breathing and slow arm exercises	191
For infants	191
For older pupils	191
With arms circling	192
With arms sideways raising	191
With arms sideways and upward raising	191
<i>Exercises.</i>	192
Balance	178
Deep breathing	191
Head and trunk	134
Jumping	190
Key table of	208
Lunge	182
Marching	187
Order of	208
Shoulder	180
Supplementary	192
<i>Head and trunk exercises</i>	184
Arms flinging in trunk backward bend position	184
Arms flinging in trunk forward bend position	184
Arms stretching in trunk backward bend position	185
Arms stretching in trunk forward bend position	185
Arms stretching in trunk turn position	186
Forward and backward bending	184
Head backward bending	184
Head turning	185
Trunk bending with arms in upward stretch position	185
Trunk backward bending	184
Trunk downward bending	185
Trunk forward bending	184
Trunk sideways bending	186
Trunk sideways bending in foot forward position	187
Trunk sideways bending with arms in alternate stretch position	187
Trunk sideways bending with arms in sideways stretch position	187
Trunk sideways bending with arms in upward stretch position	187
Trunk turning	186
Trunk turning and sideways bending	185
Trunk turning, arms swinging	186
Trunk turning with arms in upward stretch position	186

# INDEX.

xix

PAGE. PAR. &C.

PAGE. PAR. &C.

**Physical Exercises—**

*cont.*

<i>Jumping</i> ... ... ...	190
<i>Astride</i> ... ... ...	190 101
<i>Astride with knees bending</i> ... ... ...	190 102
<i>Forward</i> ... ... ...	191 106
<i>Preparation for</i> ... ...	190 100
<i>Upward</i> ... ... ...	190 103
<i>Upward with arms sideways raising</i> ...	190 104
<i>Upward with turning</i> ...	191 105
<i>Key table of exercises</i> ...	208
<i>Lunge exercises</i> ...	182
<i>Arms upward stretching in forward lunge position</i> ...	183 67
<i>Arms upward stretching in outward lunge position</i> ...	182 62
<i>Downward bending in forward lunge position</i> ...	183 68
<i>Forward lunging</i> ... ...	183 64
<i>Forward lunging, arms flinging</i> ... ...	183 65
<i>Forward lunging, arms forward and sideways swinging</i> ...	183 66
<i>Outward lunging</i> ... ...	182 60
<i>Outward lunging, arms stretching obliquely</i> ...	182 61
<i>Outward lunging, arms upward stretching</i> ...	183 63
<i>Marching</i> ...	187
<i>Changing direction</i> ...	188 90
<i>Changing from quick time into double time and vice versa</i> ...	190 99
<i>Changing step</i> ... ...	188 92
<i>Double march</i> ... ...	189 98
<i>Halt</i> ... ...	188 89
<i>Marching with heels raised</i> ... ...	188 94
<i>Marching, with hopping alternately on the left and right foot</i> ...	189 97
<i>Marching with knees raising</i> ... ...	189 95
<i>Marking time from the march</i> ... ...	188 91
<i>Marking time with knees raising</i> ... ...	189 96
<i>Quick march</i> ... ...	188 88
<i>Turning about on the march</i> ... ...	188 93
<i>Order of Exercises</i> ...	208
<i>Shoulder exercises</i> ...	180
<i>Arms circling</i> ... ...	181 54
<i>Arms flinging</i> ... ...	181 55
<i>Arms forward and sideways flinging</i> ...	181 58
<i>Arms forward and upward raising</i> ...	180 52
<i>Arms forward raising</i> ...	180 49
<i>Arms sideways and upward raising</i> ...	180 53
<i>Arms sideways raising</i> ...	180 50
<i>Arms sideways swinging</i> ...	181 57
<i>Foot forward, arms flinging</i> ... ...	181 56
<i>Foot forward, arms forward, and sideways swinging</i> ...	182 59
<i>Hands turning</i> ... ...	180 51
<i>Starting positions</i> ...	175
<i>Astride, hips firm</i> ...	176 26
<i>Astride, neck rest</i> ...	176 27
<i>Feet astride</i> ... ...	175 17
<i>Feet close</i> ... ...	175 16

**Physical Exercises—**

*cont.*

<i>Feet close, hips firm</i> ...	176	20
<i>Feet close, neck rest</i> ...	176	21
<i>Foot forward, hips firm</i> ...	176	24
<i>Foot forward, neck rest</i> ...	176	25
<i>Foot forward place</i> ...	175	19
<i>Foot outward place</i> ...	175	18
<i>Foot outward, hips firm</i> ...	176	22
<i>Foot outward, neck rest</i> ...	176	23
<i>Hips firm</i> ... ...	175	14
<i>Neck rest</i> ... ...	175	15
<i>Supplementary exercises</i> ...	192	
<i>Illustrations</i> ... ...	193	
<i>Appendix.</i>		
<i>Key Table</i> ... ...	208	
 <b>Physical Science</b> ...	55	
<i>Apparatus</i> ... ...	55	4
<i>Elementary</i> ... ...	55	1-4
<i>Meteorological observation</i> ...	55	3
<i>Practical work</i> ...	55	2
 <b>Physical Training</b> ...	79	
<i>Classes for teachers</i> ...	80	6
<i>Delicate children</i> ...	80	5
<i>For older girls</i> ...	80	5
<i>Games</i> ...	81	1
<i>Model course</i> ...	79	4
<i>Object of</i> ...	80	1
<i>Revised course</i> ...	79	5
<i>Underfed children</i> ...	80	2-5
 <b>Pictures</b> ... ...	23	2
 <b>Plants</b> ... ...	111	1, 3
<i>Experiments with</i> ...	53	1
<i>Flowering Plants</i> ...	155	
 <b>Play</b> ... ...	141	2
<i>(See also Games.)</i> ...		
 <b>Poetry</b> ... ...	32	4, 5
	34	3
 <b>Posture</b> ... ...	90	7
	138	5
	140	12
<i>At drawing</i> ...	72	8
<i>For handwriting</i> ...	73	3, 4
 <b>Poultry Keeping</b> ...	155	3
 <b>Practical Geometry</b> ...	45	3
 <b>Practical Work</b> ...	156	Note
 <b>Prefatory Memorandum</b> ...	2	
 <b>Private Study</b> ...	26	4
 <b>Problems</b> ... ...	41	5
	42	5
	45	2

	PAGE.	PAR.	& C.		PAGE.	PAR.	& C.
<b>Promotion</b>	19	2		<b>Schemes.</b>			
Infants	24	5		Arithmetic	46	1, 2	
Head Teacher responsible for	14	3		Cottage gardening	98		
<b>Pronunciation</b>	31	1		Drawing	154	5, 7	
<b>Punctuality</b>	6	6		Gardening	126		
<b>Punishment</b>	8	4, 5		Geography	158		
Corporal	9	1, 2		History	113		
<b>Purpose of Elementary School</b>	{ 4	1, 2		Hygiene	117		
	13	2		Nature study	65	3	
<b>Reading</b>	{ 5			Needlework	66	6	
At home	36			Of work	121		
Errors to avoid	38	2		Rural science	124		
Material	37	3		Singing	136		
Methods of teaching	38	1		Temperance	105		
Organization of classes	36			<b>Scholarships</b>	{ 19	Ftnote	
Silent	34	1			{ 20	2	
Phonetic method	34	1		<b>School Furniture</b>	90	5, 6	
Simultaneous	36	3		<b>School Journey</b>	{ 49	3	
	75	2			{ 54	2	
<b>Reading Books</b>	38	1			{ 57	5	
Geography	113	5		<b>School Museums</b>	54	1	
History	66	5		<b>School Nurses</b>	{ 93	2	
Music	122	4			{ 94		
Nature study	77	2			{ 97	2	
	53	3		<b>School Walks</b>	{ 54	2	
<b>Recitation</b>	{ 34	3			{ 115	5	
	66	2			{ 116	1, 10	
For Young Children	32	4		<b>Science.</b>			
Simultaneous	75	2		Elementary physical	55	1	
<b>Records</b>	{ 14	4		Rural	153		
Of honours	7	5		<b>Science of Common Things</b>	{ 47	2	
<b>Repetition</b>	{ 32	4			{ 108	1	
	{ 34	3		<b>Scotch Songs</b>	{ 76	3	
<b>Rounds (Songs)</b>	{ 78	1			{ 132	1	
	{ 133	2		<b>Seeds</b>	{ 111	2	
<b>Ruler, Use of ...</b>	26	3			{ 153		
<b>Rural Schools, Curriculum</b>	18	1, 2			{ 154		
<b>Rural Science, Syllabus of</b>	153			<b>Sewing</b>	{ 82		
Bee keeping...	156				{ 136		
Cottage gardening	154			For young children	82	2	
Dairying	155			(See also Needlework.)			
Farriery	156						
Poultry keeping	155						
Subjects	154						
<b>Savings Banks</b>	{ 7	1		<b>Simultaneous Work</b>	{ 25	1	
	{ 150	1			{ 30	4	
					{ 75	2	

	PAGE.	PAR. &c.		PAGE.	PAR. &c.
<b>Singing</b> ... ... ...	{ 75 128		<b>Staff</b> ... ... ...	{ 14 15	
Choral Societies ...	{ 77 75	3 5	In small schools ...	{ 15 14	4 3
Folk music ...	{ 76 129	2 6	Sufficiency of ...	{ 15 15	2 & foot-note
Infants ...	{ 76 128	3			
Modulator ...	{ 77	2	<b>Stammering</b> ... ... ...	95	6
Musical theory ...	{ 76	6	<b>Stamp Deposit System</b>	151	3
Older scholars, for	{ 129				
Part singing ...	{ 78 129	1 6	<b>Stuttering</b> ... ... ...	96	1
	{ 131	1			
Rounds and Catches .	{ 130 131	3 1	<b>Subjects, Obligatory</b> ...	17	3
	{ 133				
School entertainments ...	{ 76 77	5 1	<b>Suggestions.</b>		
Sol-fa notation ...	{ 128	6	Tentative ...	{ 2	1
	{ 130		Do not supersede Code ...	{ 3	2
Songs ...	{ 129 130	6 3	Their value ...	{ 3	3
Songs for Infants ...	{ 76 131	3 8			
Staff notation ...	{ 77 128	1 6	<b>Supplementary Teachers</b> ...	15	3
	{ 131	1			
Unison ...	{ 129 130	6 3	<b>Swimming</b> ... ... ...	81	1 & foot-note
Voice production ...	{ 77	4			
Voice training ...	{ 128 130	1, 7 4	<b>Syllabus, Detailed</b> ...	{ 17	
	{ 141	3	(See also Schemes.)	{ 20	3, 4
<b>Sky</b> ... ... ...	108	2			
	{ 94	5	<b>Teacher.</b>		
<b>Sleep</b> ... ... ...	{ 97 138	1 7	Example ... ... ...	{ 6	5, 6
	{ 141	3	Function ... ... ...	{ 2	3
<b>Songs</b> ... ... ...	{ 75 131	1 1	His work ... ... ...	{ 12	2
Carols...	{ 131	5	Responsibility ... ... ...	{ 14	1
Folk-songs ...	{ 75 129	5 6			
Infants, for ...	{ 76	3	<b>Teacher and his Work</b>	12	2
Irish ...	{ 182	2			
List for Infants ...	{ 131	3	<b>Teacher's Library</b> ...	2	4
List for older scholars ...	{ 131	4			
National ...	{ 75 131	5 1, 4	<b>Teeth</b> ... ... ...	95	1
Number to be learned ...	{ 131	2			
Part songs ...	{ 78 131	1 1	<b>Temperance, Teaching of</b>	{ 92 91 136	1, 3 8
Scotch ...	{ 132	1			
<b>Speech Defects</b> ...	{ 31 95	2 6	<b>Thrift</b> ... ... ...	7	1
<b>Spelling</b> ... ... ...	{ 29 35	3			
<b>Sprains or Bruises</b> ...	149	1	<b>Time Tables.</b>		
			Framing of ...	{ 91	3
			Alterations in ...	{ 90	F'tnote
			<b>Tobacco</b> ... ... ...	147	9
			<b>Training.</b>		
			Intellectual faculties ...	{ 4	3
			<b>Underfed Children</b> ...	{ 80 97	5 1
			<b>Ventilation</b> ... ...	{ 89 139	5 5

	PAGE. PAR. &C.				PAGE. PAR. &C.		
<b>Visits.</b>					<b>Writing</b>		
To museums ... ...	49	3		(See also Handwriting.)		5	
To other schools ... ...	2		F'tnote			26	2
To places of historical interest ... ...	66	1				73	1
	124	1					
<b>Voice Training</b> ... ...	77	4		<b>Women Teachers.</b>			
<b>Water</b> ... ... ...	110	1		C.P. for Girls ...	...	9	1
<b>Welsh.</b>				For Infants' Schools ...	...	15	3
Language ... ... ..	25	5		For Mixed Schools ...	...	15	3
Songs ... ... ...	76	2		For Older Girls ...	..	80	5
	133						
<b>Woodwork</b> ... ... ...	86	5		<b>Younger Scholars.</b>			
				Geography ... ...	...	58	4
				History ... ...	...	66	3
				Hygiene for ... ...	...	138	8
				Instruction of ... ...	...	24	6
				Singing for ... ...	...	128	7



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**BOARD OF EDUCATION.**

**SUGGESTIONS FOR THE CONSIDERATION  
OF TEACHERS AND OTHERS CONCERNED IN THE  
WORK OF PUBLIC ELEMENTARY SCHOOLS, 1905.**

CONTENTS.

	SUBJECT.	Page
PREFATORY MEMORANDUM ...	...	2
INTRODUCTION ...	...	4
Chapter.		
I.—The Head Teacher, the Staff, and the Organisation of the School	...	14
II.—The course of instruction and syllabus ...	...	17
III.—The methods applicable to infants, younger and older scholars ...	...	21
IV.—The teaching of English ...	...	28
V.—The teaching of Arithmetic ...	...	41
VI.—Observation Lessons and Nature Study ...	...	47
VII.—The teaching of Geography ...	...	56
VIII.—The teaching of History ...	...	64
IX.—The teaching of Drawing ...	...	69
X.—The teaching of Singing ...	...	75
XI.—Physical Training ...	...	79
XII.—The teaching of Needlework and Housecraft ...	...	82
XIII.—Handicraft and Gardening ...	...	85
XIV.—The School and the Health of the Scholars ...	...	89

APPENDICES.

I.—Specimen schemes for teaching Arithmetic...	...	98
II.—Lists of topics for Observation Lessons and Nature Study	...	105
III.—Specimen schemes for teaching Geography ...	...	113
IV.—Outline scheme for teaching History ...	...	121
V.—Outline scheme for teaching Drawing ...	...	126
VI.—Scheme for teaching Singing and Lists of Songs ...	...	128
VII.—Graduated scheme for teaching Needlework ...	...	135
VIII.—Outline scheme for teaching Hygiene and Temperance ...	...	136
IX.—Facilities for Banking School Pence ...	...	150

## PREFATORY MEMORANDUM.

In issuing this volume the Board of Education desire at the outset strongly to emphasise its tentative character, and to invite well-considered criticism designed to make it more useful for its special purpose.

The work which the Nation expects its Public Elementary Schools to do has been stated with general acceptance in the Introduction to the Code; and it is hoped that this book, even though it is in a large measure experimental and incomplete, will encourage and assist those engaged in the work of Elementary Education to secure that these schools further the ends for which they are maintained.

Many agencies, each with its special function and responsibility, co-operate in this work. But the teacher's function and responsibility are of predominant importance, and the greater part of this book is meant to furnish some guidance of a general character to the teachers, and even more to encourage careful reflection on the practice of their profession.

Great progress in educational matters has been made of late years, and some Local Authorities have made arrangements to enable their best and most experienced teachers to acquaint themselves with modern development in the practice and theory of teaching. All teachers would profit by access to a library well furnished in what may be described as pedagogic literature, and by the opportunity of attending lectures, demonstrations and discussions given or conducted by teachers, versed alike in the theory and practice of education.

But only a limited number of teachers can avail themselves of such methods of keeping abreast with educational progress, and it is hoped by a continuous and systematic revision of this volume to incorporate in it all that experience shows to be of real moment as making for the success of a Public Elementary School.

The child's time at a Public Elementary School must needs be limited: every subject of the curriculum must, therefore, be shown to be of value, and the value of any subject may be discounted by indifferent teaching. The child's education should be useful to himself, and in so far as it makes him a better citizen, to the community. Poor or mechanical teaching will frustrate both these ends.

The Board have, therefore, attempted in the Chapters of this book to define the grounds which justify the presence of the ordinary subjects in the curriculum of the Elementary School. They have further endeavoured to indicate the principles which should underlie the teaching of each of the subjects, and in certain cases schemes

N.B.—The marginal numbers do not appear in the official copy of the Suggestions. They have been inserted in this edition in order to facilitate reference to foot-notes, and to enable a suitable index to be constructed.

<sup>2</sup> Introduction to Code. See N.U.T. edition, page 13.

<sup>4</sup> Some Local Authorities make arrangements, under which teachers in their employment may visit other schools of recognised excellence during school hours.

<sup>4</sup> Teachers who may be visiting Berne, Switzerland, would gather useful hints respecting school equipment, illustrations for lessons, &c., by visiting the school museum, which has been established by the Education Authority in that town.

have been added which show in outline how those principles could be applied in framing a syllabus. These schemes are not designed to be more than examples of method in the treatment of subjects on certain definite principles.

<sup>1</sup> These suggestions as to methods are issued by the Board in the belief that they are calculated to lead to good results. They are not, however, intended to condemn the use of any methods which a teacher believes to be useful, more especially when his belief is confirmed by experience.

<sup>2</sup> Neither the present volume, nor any developments or amendments of it are designed to impose any regulations supplementary to those contained in the Code. The only uniformity of practice that the Board of Education desire to see in the teaching of Public Elementary Schools is that each teacher shall think for himself, and work out for himself such methods of teaching as may use his powers to the best advantage and be best suited to the particular needs and conditions of the school. Uniformity in details of practice (except in the mere routine of school management) is not desirable even if it were attainable. But freedom implies a corresponding responsibility in its use.

<sup>3</sup> Teachers who use this book should therefore treat it as an aid to reviewing their aims and practice, and as a challenge to independent thought on such matters. Substantial agreement, or dissent on definite and reasoned grounds, fortified by experience, will be results equally welcome to the Board. Many teachers may disagree with some of the suggestions in the following Chapters; in that event they should ask themselves whether their own procedure, however sanctioned by convention, may not after all be open to question. If then, after full consideration the teacher finds reason to wish to alter the methods hitherto adopted in his school, he would do well to consult the Inspector before he adopts other methods suggested in this volume. No teacher can teach successfully on principles in which he does not believe, nor must he lightly use his class as a field for experiment.

<sup>4</sup> The Board hope to be able to collate the results of careful observation during the next few years so as to be able to issue some general outlines of aim and method, proved by searching tests to be practicable and effective in Public Elementary Schools; and they would strongly recommend Local Education Authorities to give opportunities in one or two selected schools for experimental work within definite limits. These experiments might be carried on in some cases by teachers of long experience, in others by younger teachers who come fresh from the influence of the excellent professors or lecturers in education who are now to be found in many of our training colleges. It is hoped that this volume will lead to greater activity in the organisation of practical inquiries as to the education best suited to schools of various types in characteristic localities. In work of this kind the authorities and the teachers may

<sup>2</sup> The Board are careful in this paragraph to impress the fact that these Suggestions neither increase nor diminish the Regulations set forth in the Code. They must not, therefore, be regarded as conflicting with the Code, but as indicating methods by which effect may be given to the Code requirements.

count on the active assistance of the Inspectors, who will be ready to convey to the Board any suggestions which it is thought may tend to the improvement of this book, or the reports of any important experiments in Elementary Education which may have been tried in their districts.

### INTRODUCTION.

#### (a) *The Purpose of a Public Elementary School.*

The regulations of the Code are designed in the first instance to serve the necessary purpose of setting forth the conditions which an elementary school must satisfy in order to obtain the Parliamentary grants available for Public Elementary Schools. In so far as these regulations deal with the instruction which should be given in all schools they lay down broad and general lines which the school work should follow, while they give freedom to individual teachers and to bodies of managers to adapt this work to local requirements, or to the special conditions of the school.

There are, however, some aspects of teaching which cannot be indicated in the Code, though they should never be absent from the teacher's mind. The purposes of a Public Elementary School are not limited to the satisfaction of the conditions for earning a Parliamentary grant, nor even to the promotion of the material advancement of the scholar by skilled teaching, and by the adaptation of school work to local needs. The purpose of the school is education in the full sense of the word: the high function of the teacher is to prepare the child for the life of a good citizen, to create or foster the aptitude for work and for the intelligent use of leisure, and to develop those features of character which are most readily influenced by school life, such as loyalty to comrades, loyalty to institutions, unselfishness, and an orderly and disciplined habit of mind.

#### (b)—*The Training of the Intellectual Faculties.*

The process of teaching, therefore, involves a careful development of the faculties of the child.

Enforcement of attention and training of memory are among the essentials of education, but attention should be observant and intelligent, and the power of sustained attention is not acquired with ease. Care should be taken lest attention demanded at undue length for one subject lead to weariness, disgust, and waste of time.

As the attention should not be overstrained, so the memory should not be overburdened. Children learn with readiness by rote, but the enforced recollection of words and phrases which convey no meaning, or of facts which are unconnected or of no significance to the child's mind, can be of little material and of no educational value.

To enlist attention, and to ensure that the student remembers what he is taught, the teaching must above all things possess reality. The child must be brought to feel that the course of study set before him is not only a part of the discipline of youth, but bears some relation

<sup>1</sup> See also page 13, 2.

<sup>2</sup> See Introduction to the Code, N.U.T. Edition, page 13.

to human life, its interests and its needs. This need for reality should be borne in mind at every stage of education. A facility in reading and writing should not be regarded as an end in itself, otherwise children assume that reading is a tiresome exercise, and that writing is a form of handicraft valuable only to clerks and accountants. The reality of the matter should be brought home to the child's mind that writing is a means for fixing in intelligible language and character the passing thought; that reading is a means of increasing the stock of words at command, of acquiring new ideas about men and things in the present and the past, a resource for leisure, for illness, for old age, an essential not merely to success but to pleasure and interest in life.

In certain respects, nature study and elementary science teaching possess advantages which literary studies cannot claim: the child learns to observe and learns by observation; he can ascertain by practical experience why and how the results at which he aims are brought about. It may not be possible to invest the teaching of geography and history with these particular attributes, but there is no reason why geography should not be made interesting in relation to locomotion and commerce and to the disposition over the earth's surface of the chief races of mankind; while history may acquire

<sup>1</sup> additional reality if taught in connection with geography, and additional charm if illustrated by passages of good poetry and prose. The child should be encouraged to read independently, and to reproduce as soon as possible in his own language the result, not merely of his observations in the natural world, and in his scientific teaching, but of his historical and literary studies. Teaching on these lines offers the best prospect of inducing children to exert their reasoning powers, to add to their stock of knowledge and their faculty of expression.

Nor should we omit the cultivation of the taste. An appeal to the sense of harmony and rhythm which is innate in most human beings may best be made through music. The philosophy of teaching from Plato to Goethe has dwelt upon this aspect of music. And with this, children should be made familiar at an early age with good prose and poetry; they will thus learn by use to value choice of language and beauty of expression, the exact correspondence of

<sup>2</sup> word and thought, and the rhythm of a well-constructed sentence. Nor should this object be lost sight of in the physical exercises which should form part of the school work; these are important not merely for the promotion of health and bodily strength; they should be used to develop grace and harmony of action, and should form the discipline of the body as other studies form the discipline of the mind.

### (c) *The Formation of Character.*

The establishment of character must always be one of the main aims of Elementary Education, and every part of the school life has some influence in this regard, whether for good or for evil. We endeavour for instance to adapt the teaching to the attainments of the scholars, not merely to secure due intellectual progress, but

<sup>1</sup> See also pages 18; 50; 105; 153.

because children will acquire the bad habit of idleness both when the work demanded of them is too easy and also when it is too hard.

<sup>1</sup> Moreover, the good moral training which a school should give cannot be left to chance; on this side no less than on the intellectual side, the purpose of the teacher must be clearly conceived and intelligently carried out.

To younger scholars History should be taught orally through a series of biographies of typical heroes or heroines. These should be treated in the main with a view to illustrating in the action of real persons the principles of conduct and qualities of character which promote the welfare of the individual and of society. The lives of great men and women, carefully selected from all stations in life, will furnish the most impressive examples of obedience, loyalty, <sup>2</sup> courage, strenuous effort, serviceableness, indeed of all the qualities which make for good citizenship. The teacher should place in relief those actions of his heroes or heroines which exhibit their higher qualities, but should take care not to raise them too far above the level of common humanity by the omission of their faults or short-comings. He should make the picture a life-like and instructive exhibition of character, and of the effect on the individual and on those around him, for good or evil, of the acts recorded.

<sup>3</sup> A similar appeal can be made to the imagination of children by the use of music in well-chosen songs, or of appropriate passages from the best literature in the teaching of the mother tongue.

<sup>4</sup> It is important beyond question that the aim of the teaching should be a high one, but it is even more necessary that school life should prevent scholars from forming bad habits, and should train them in good habits, and, if possible, in good conduct in a wider sense than cheerful observance of school regulations.

<sup>5</sup> In the matter of the moral training of children, a most important factor will be the habitual conduct of the teacher in the school. The example of his patience, kindness, and determination to be obeyed, of his constant watchfulness and scrupulous fairness, will evoke similar traits in his pupils, and will give point and force to formal instruction.

<sup>6</sup> The every-day incidents of school life will enable the teachers to impress upon the scholars the importance of punctuality, of good manners and language, of cleanliness and neatness, of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act. Children will notice such details in the conduct of a teacher as punctuality, order, neatness and gentle speech, and they will imitate what they see and hear. They are quick to observe, and if the teacher's conduct is in these respects defective, his example must almost certainly have disastrous effects on the habits of the scholars. The punctual and methodical performance of duties, even in matters of trivial routine, will impress upon the children, better than any lesson,

<sup>2</sup> *History.*—For full suggestions respecting the teaching of this subject see page 64, *et seq.*

<sup>3</sup> See also pages 75, 3; 76, 1.

*Cleanliness.*—See also pages 92, 4; 138, 2; 140, 2; 142, 3.

the importance of orderliness. The good habits of the teacher will be as powerful as his express requirements in shaping his scholars to good habits.

A branch of moral training for the advancement of which the Elementary School offers special opportunities is the instruction of the child in the elements of thrift and economy. Much may be done to teach the child how to economise slender resources, and how to make reasonable provision for the future. Simple lessons may be given on such subjects as money, and methods of spending and saving; and such instruction will be more practical and effective if some kind of Savings Bank is established in connection with the School.\* The child who is helped to deny himself the gratification of some trifling personal desire, who is encouraged to save by degrees a few shillings, and who finds this sum available for the purchase of books or clothes, or for helping his parents at a time of family misfortune, has received a practical lesson in the advantages of thrift and economy which may make a lasting impression upon him.

Some teachers have been in the habit of inviting parents to visit the school on some particular day in the month to see their children at work. These open days are a valuable means of interesting parents in their children's studies; and the knowledge that the teacher is a friend of the parents will make a child more amenable to the good influence of the school.

The school as a community should have some corporate life of its own in order that the scholars themselves may take part in maintaining a standard of conduct. The most direct means of fostering school traditions is to organise school games, in which the scholars may learn under the guidance of their teachers to obey rules, to avoid rough play, and to exercise self-restraint. Competition in games between school and school may be encouraged, but care is necessary to prevent the spirit of rivalry being pushed to extremes. Within a school the element of competition should not be allowed to dominate the attitude of the scholars to each other. Within certain limits it must be, and indeed ought to be, deliberately used by the teacher as a stimulus. But there is room for encouraging what may be called co-operative effort in many lessons, particularly in lessons like Nature Study.

The practice of giving some of the older boys and girls responsible duties as monitors is an excellent one, and in some elementary schools the plan of allowing the monitors to be chosen by their classmates is carried out with good effect.

It is also useful to keep up a record of those scholars who attain any honourable distinction, not necessarily scholastic; and the attachment of old scholars to a school by means of societies

\* Particulars as to establishment of Penny Banks in connection with the Post Office will be found in Appendix IX., page 150.

3 Games.—See also pages 81, 1; 138, 6; 141, 2.

4 In some Elementary Schools the scholars select with considerable ceremony a Captain and a Vice-Captain, and these two scholars so chosen form the tribunal before which their school comrades bring many disputes for settlement. They exercise considerable influence upon the discipline of the school, and regard themselves as responsible for maintaining the honour of the school.

## DISCIPLINE.

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or by means of Evening Schools will benefit both past and present scholars.

1 It must be remembered that the various religious bodies, each working for its own community in the way most suited to its organisation, are willing and anxious to supervise or to participate in the moral education of the young. The Board would impress upon Teachers, Managers, and Education Authorities in areas of special difficulty the importance of meeting the active members of religious bodies in order to devise means external to the school for handling this most important and difficult of all educational problems.

2 Lastly, each family has an inalienable duty in respect of the upbringing of its own members. Much of the moral shipwreck of young people may be traced to parental ignorance or neglect resulting in the exposure of little children to influences, not perhaps obviously harmful, but sadly so in effect. Physical, intellectual, and moral disaster attend a child whose life is spent largely in the streets subject to no control. In all areas where poverty or improvidence is rife, Managers and Educational Authorities, working directly through official agencies, or it may be hoped to an increasing extent with volunteer helpers, can promote the moral no less than the physical and intellectual well-being of the scholars, by reviving home interests and home influences, even if they can only induce parents to resume control of children so far as to stop their frequenting the streets until late hours. No efforts should be spared to improve the life of the home, but the vast majority of homes are at any rate less harmful than the streets at night.

3 Any efforts made in this direction will be something to lessen the odds with which teachers in poor neighbourhoods have to contend in their efforts to place the children in the right path.

4 Efficient discipline under favourable conditions would form those good habits which make punishment unnecessary; and though circumstances often prevent this consummation, the undue frequency of punishment indicates faults in the teaching as surely as in the children. Order, diligence, and obedience, if secured only by means of punishments, do not constitute good discipline; and whether maintained by fear of punishment or by other means, a discipline which places children under constraint is incompatible with the best kind of teaching. The scholars should be encouraged during some fixed part of a lesson to question the teacher, to ask for explanations, to suggest their own views, and within limits to question and answer each other on the subject of a lesson. This cannot be done freely unless a relation of confidence has been set up, and the personal sympathy between teacher and class is the most effective agent in securing good discipline.

5 With many children the reproof of a teacher whom they esteem is in itself a punishment which makes positive penalties unnecessary; with others the most sympathetic teacher may find that punishment in some shape or other must be resorted to. When it is necessary to punish a scholar for faulty school work or for breaches of school

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4 Discipline.—See also page 92, 4.

rules, the principal object should be the benefit of the scholar, though the vindication of school discipline is often necessary in difficult cases. The penalty assigned must therefore be just, that is, it must be a reasonable and natural consequence of the fault in the case of the particular child. For example, faults due to carelessness or wilfulness may merit a punishment which is not deserved if the same faults arise from that slowness of mental development which may often appear in children from poor homes. If the bodies of such children are not actually ill-nourished, their intellectual development is often retarded by uncongenial surroundings. The punishment of such children for faults of school work is a matter which calls for the exercise of judgment.

Peculiar difficulties surround the question of corporal punishment, especially as regards girls and infants. In no case should infants be punished by the infliction of bodily pain, nor should girls be subjected to corporal punishment unless in exceptional cases, and then if possible at the hands of a woman teacher.

Any regulations which deal with corporal punishment will, no doubt, provide for the two points above mentioned. In other particulars it would appear to be advisable that Local Education Authorities and managers should, as a rule, place the responsibility for the discipline of a school in this, as in other respects, upon the Head Teacher, and leave him some considerable discretion in the matter. In regard to his or her school or department the Head Teacher will be the most suitable person to decide whether or not the right to administer corporal punishment should be extended to certain members of the staff. The Head Teacher will also be in a position to judge whether the circumstances make it advisable to keep a record of all occasions when corporal punishment is resorted to.

#### (d) *The Use of Examinations.*

The purpose of examinations is two-fold: they help alike the teacher and the scholar.

The teacher uses them as an instrument to ascertain whether the instruction which he has given is established in the mind of the pupil.

If he finds that what has been taught is imperfectly reproduced, or has left no impression, he is driven to ask himself whether the fault is in the matter of the instruction, the method of the teacher, or the waywardness or incapacity of the pupil. To the pupil, on the other hand, examinations give an opportunity to take stock of his resources, to test the amount and accuracy of his knowledge, and his own capacity for using it when occasion demands.

<sup>2</sup> It will be observed that a punishment record book is no longer mentioned amongst the documents which according to Schedule IV. of the Code are required to be kept in every school.

<sup>2</sup> C.P. *Regulations*.—A large number of Local Authorities have now placed in the hands of the Head Teacher the responsibility of determining which of their class teachers shall be entrusted with the duty of inflicting corporal punishment. This regulation is here mentioned with approval. Other Local Authorities might well revise their regulations on this subject in the light of this note by the Board, a note written as the outcome of many years of accumulated experience. See also Article on School Punishment, N.U.T Code, page 298.

But examinations are at best a concession to the weakness of the human memory and understanding. If everything that we learned was immediately assimilated, placed in its right relations to the rest of our knowledge and never forgotten, the purpose of examinations would be gone.

Furthermore, examinations conducted by external authorities are an interruption to continuous school work: unless they are most intimately related to the work which has been done both in and out of the class they have a tendency to divert the scholar, not merely from discursive and aimless wanderings in the field of knowledge, but from all study but such as can be reproduced in competitive display: and they encourage a knack of presenting knowledge in compact and handy forms which tends to make the scholar forget or disparage the larger purposes of study.

Neither teacher nor pupil should regard examination as an end in itself, although, if properly used, examination is an essential part of teaching.

The teacher who, in each lesson, questions the child, and uses properly the method of catechetical teaching, can, to some extent, but only to some extent, dispense with examination. If the pupil is first informed and then intelligently questioned on the information received, the teacher can ascertain, as he goes on, whether his teaching is appreciated and understood, but this process does not tell him all that he needs to know. Every one who is engaged in teaching is aware that the immediate interest and intelligence of the pupil affords no guarantee that the knowledge imparted will be retained, or that the pupil can carry in his mind any considerable mass and variety of information.

It is almost impossible, except by some process of examination, to ascertain how much the individual child can retain and use, when time has elapsed, and he is called on to deal with what should be his continually increasing store of knowledge; moreover, the knowledge which he acquires, whether from catechetical teaching, from oral lessons, or from independent study, needs testing in more ways than one.

A child has not the background in which he can place new facts, so that his ideas, though not necessarily either vague or superficial, are incorrect, and until expressed cannot be corrected. We all know by painful experience what it is to believe that we have a working knowledge of a subject, and to find, when put to the proof, that there are gaps and uncertainties of which we were wholly unaware. Or again, the materials may be available in our memory, but the connection of the various parts may not have shaped itself clearly in our minds. The pressure of an examination compels us to correlate our knowledge, to marshal our resources, to test our powers of using as well as of acquiring. In a child these powers are as yet undeveloped, and must be slowly brought into play.

Examinations, however, even when conducted by the teacher, should not be frequent. In no case should they be held more often than four times a year; and in schools whose size or organisation

allows the Head-Teacher constantly to supervise the work of his staff, two formal examinations in the year are often sufficient.

It must always be remembered that an examination, if it is to be a genuine and useful test of knowledge, demands considerable care and skill on the part of the examiner. Inattention to such details as the seating of the children at some distance from each other—a condition which in many schools cannot be secured without some fore-thought—or questions of an unsuitable type, may render an examination not merely valueless, but actually injurious. The questions asked will naturally be based upon the syllabus pursued in the class or school; but they should not be so framed as to require a mere mechanical reproduction of the knowledge acquired during the year, and for this reason teachers should beware of following too closely as a model the Annual Examinations formerly held under the Code. One of the chief uses of examination is to test the child's

<sup>1</sup> power of applying his knowledge to the solution of a problem presented to him in a slightly unfamiliar form. An examination in reading, therefore, should not be confined to the book or books actually studied during the year, but may properly include the reading of a passage from some unseen book of approximately equal difficulty. The subjects or sums selected for exercises in composition or arithmetic should be similar to but not identical with those previously worked; while even in such a subject as geography the examination of older children should include, besides questions on the syllabus studied, some test of their ability to discover for themselves from a map the physical features of a country not treated in the syllabus, and to draw simple inferences as to its climate, &c.

In the lower classes, any examination should be chiefly oral: the part played by written examination may rightly be increased in the upper classes, though oral examination should not disappear entirely. The large size of even the highest classes in many elementary schools renders oral examination an imperfect instrument for gauging accurately the effectiveness of the teaching unless the classes are <sup>2</sup> divided for the purpose of being examined orally. Moreover, where children are not trained in oral composition an oral examination does not demand to the same extent as a written examination the exercise of the power of consecutive thought and expression, the cultivation of which must always be one of the chief aims of the teacher of older children. As oral composition becomes a more prominent part of the instruction throughout the school, the extent to which an examination of the higher classes is oral may be profitably increased.

Examinations have been largely discredited by their mechanical use for the inspection of schools. The assessment of the Parliamentary Grant on the results of an examination, which became more and more formal as the numbers of children in the classes increased,

<sup>3</sup> *Examination.*—The Code Article 22 states: "The Inspector, where he considers it desirable, may hold an oral or written examination of any class in the school on the work done in the class since the commencement of the current year of instruction. Such examination, when held, will be arranged by the Inspector after consultation with the Head Teacher, and after consideration of any examinations which have been held during that period by the Head Teacher or the teacher of the class; and the Inspector will confer with the Head Teacher as to the length of notice desirable before the examination is held."

led inevitably to cram. To put a pecuniary value on the success of a child giving correct answers to questions ranging over a precise and limited field, was a sure way to spoil teaching, to weaken or destroy the interest of the pupil, and to misdirect the whole purpose of school life. Inspection of methods of teaching is now substituted for the assessment of a school by the answers of individual scholars to selected questions; but the Inspector will necessarily require to test from time to time the efficiency of these methods, and the knowledge which the pupils have obtained not merely as regards its quantity, but as regards its quality of clearness and thoroughness.

And from the teacher's point of view the test which he should apply to the value of his own teaching may, from time to time, be usefully supplemented by the test of an outside opinion, which has been formed by estimating and comparing the value of work of a similar character in the schools of a wide area often presenting a considerable variety of circumstances. The judgment formed by such an observer will clearly be useful to the teacher, inasmuch as it is based upon experience ampler than that which he himself, in the nature of the case, has ordinarily been able to acquire. Experienced observers, however, sometimes find it impossible to judge the efficiency of teaching by such immediate effects upon a class as are visible to an onlooker, and may find it necessary to examine the scholars. Examination is educationally useful if carefully applied in the ordinary course of study; and an external examination, if conducted with due regard to the teaching which has been given, can be made reasonably free from the obvious evils of an examination to which all teachers alike are forced to adapt their teaching. This machinery is therefore at the disposal of the Inspector for such occasional use as may seem to him desirable. If, therefore, the Inspector thinks that he needs some further information than he can obtain by hearing a class taught or studying the records of examinations held by the teachers, it will be necessary for him in the last resort to have recourse to an examination of his own.

#### (e) *The Teacher and His Work.*

The essential condition of good education is to be found in the right attitude of the teacher to his work. The greatest of human achievements, whether it be the attainment of an ideal of conduct, the mastery of the forces of nature, or the perfect expression in language of thought or fact, is the outgrowth of the individual desire to know and to do, which begins with the active curiosity of the child in face of the external world. Let the teacher realise this, and he will not fail to perceive that the value of any act of the teaching

<sup>1</sup> Wherever an Inspector holds an examination it should be subject to the conditions set forth in Article 22 quoted on the previous page. In making the arrangements with the Inspector the Head Teacher will no doubt deem it desirable to consult with the various class teachers concerned, for not only are the professional interests of such class teachers likely to be materially affected by the results of the proposed examination, but from the nature of their duties they may be in a better position than the Head Teacher to describe the circumstances under which the class has hitherto worked, and consequently the amount of time which should elapse before submitting each scholar to an examination. It is not a question of time in which to impart additional instruction, but rather of time to secure the knack "of presenting knowledge in a compact and handy form."

process lies not in the intrinsic utility of the subject taught, nor in the trained and skilful application of the process itself, but in the way in which it calls into play the natural activities of the children, and develops in them a sense of their powers, and of the added mastery of these which each succeeding use secures.

The teacher, therefore, must know the children and must sympathise with them, for it is of the essence of teaching that the mind of the teacher should touch the mind of the pupil. He will seek at each stage to adjust his mind to theirs, to draw upon their experience as a supplement to his own, and so take them as it were into partnership for the acquisition of knowledge. Every fact on which he concentrates the attention of the children should be exhibited not in isolation, but in relation to the past experience of the child; each lesson must be a renewal and an increase of that connected store of experience which becomes knowledge. Finally, all the efforts of the teacher must be pervaded by a desire to impress upon the scholars, especially when they reach the highest class, the dignity of knowledge, the duty of each pupil to use his powers to the best advantage, and the truth that life is a serious as well as a pleasant thing.

The work of the public elementary school is the preparation of the scholar for life; character and the power of acquiring knowledge are valuable alike for the lower and for the higher purposes of life; and though the teacher can influence only a short period of the lives of the scholars, yet it is the period when human nature is most plastic, when good influence is most fruitful, and when teaching, if well bestowed, is most sure of permanent result.



<sup>1</sup> How obviously desirable is it then that the teacher should not be diverted from this work to the preparation of voluminous and comparatively useless Returns. How desirable is it that he should not be harassed by needless regulations, for individuality may not only be cultivated, it may be destroyed.

## CHAPTER I.

## THE TEACHING STAFF AND THE ORGANISATION OF A SCHOOL.

(1) *The Head Teacher.*

The Head Teacher of each department should be held responsible for the general control and supervision of the instruction, discipline, and organisation. It is his duty to draw up a general scheme of instruction for the department, to see that its details are properly worked out by the teacher of each class, and to supervise the keeping by the staff of notebooks for containing brief summaries of the chief oral lessons. He must watch over the effectiveness of the instruction given; and, in matters connected with teaching or discipline, he ought to give to the younger members of the staff such assistance as their inexperience may require.

He will be expected to arrange that the school shall be periodically tested by a formal examination which he should supervise, and in which his staff should take such part as he may determine. He will communicate to them any obvious faults in method which are made evident by the result of the examination, and should frame a report which, with the questions and written answers, should be preserved for future reference and laid, if required, before the Inspector.

The promotion and classification of the scholars should be watched by the Head Teacher, and he should take great care to assign to the teachers the subjects or classes which they are best qualified to teach.

The Head Teacher should keep a record book containing brief entries of the quality of the work done throughout the school as tested by the periodical examinations; and progress or mark books as to the individual conduct, application and progress of the scholars should be kept by the staff under his supervision. While making sure that such books are properly kept, he must take care that clerical work of this kind does not attain undue proportions. These books are the property of the school authorities, and should be left at the school in the case of any change of staff. It may induce parents to take an active interest in the school if the Head Teacher sends a short report at regular intervals on the conduct, application, and progress of their children.

1 *The Syllabus.—Code, Article 3 states:—*

"(a) The syllabus should be arranged with reference to the re-classification of scholars either annually or at shorter intervals. The times of re-classification need not depend upon the date of the school financial year. (Article 27.)"

"(b) The Board of Education, or the Inspector who visits the school, may require any syllabus to be submitted for approval. The Board may require the modification of any syllabus which is unsuitable."

"(c) The Inspector may require such brief notes of the course of instruction in any subject of the approved syllabus to be produced as will show that the lessons have been properly prepared by the teacher."

3 *Classification.—The duty of promoting children from class to class rests with the Head Teacher.*

*Promotion of Infants.—See footnote to Article 1 of the Code, N.U.T. Edition, page 14.*

3 *Distribution of Staff.—By this clause it is made clear that in the opinion of the Board of Education the duty of determining which teacher shall take a particular class rests with the Head Teacher.*4 *School Reports.—It is desirable that such Reports should be subsequently shown to the Head Teacher or Class Teacher with the signature of the parent attached.*

To enable him to perform these duties, the Head Teacher in a large school should not be tied to a class for every lesson, but he would do wisely to take a definite and considerable share in the work <sup>1</sup> of the highest class. As the most experienced teacher in the school, his work here will be most effective, and by virtue of his position his influence is likely to be greater than that of a subordinate. It will be exerted on those scholars who are about to leave school, and upon whose characters he may leave lasting impressions.

(2) *The Staff.*

The first condition in determining the sufficiency of a staff must <sup>2</sup> be the numbers in average attendance; but the special circumstances of every school or department, and the efficiency of the individual members of the staff must in every case be taken into account.

The number of scholars is only one factor in the case; their age and sex, their intellectual capacity, their health and condition in life, and the planning and equipment of the buildings have each an important bearing on the number or quality of the staff required. Infants and the lower classes of other scholars should be taught by women, and the presence of experienced women teachers in mixed <sup>3</sup> schools other than infant schools is indispensable. Moreover there are some teachers who are quite capable of teaching infants and the lower classes of younger scholars, but are not capable of undertaking the instruction of the higher classes. In general a "Supplementary Teacher" as defined in the Code will not be recognised by the Board as a suitable teacher of any of the upper classes of a School.

In large modern schools a separate room is provided for each class in charge of its own teacher, and this is the most effective arrangement. But such an arrangement is impossible in small schools, and in many large schools of older types. Whatever be the circumstances, each separate group of scholars ought to be in the definite charge of some one teacher, though in small schools it <sup>4</sup> may be necessary for the same teacher to be responsible for more than one group. If there is more than one class, the Head Teacher, though he ought to take some definite part of the work of one or more of the classes, should never be so fully occupied in teaching that he cannot have the school as a whole under observation. There must be very great difficulties where a teacher has scholars of varying degrees of proficiency, and it is hoped that Local Education Authorities will be able to provide effective assistance in a school attended by children of all ages, even though the total number of scholars is small.

<sup>1</sup> Many Local Authorities have made a rule that the Head Teacher shall not count upon the staff for the purposes of Article 12 (a) of the Code.

<sup>2</sup> *Code, Article 10 states:* "In considering the sufficiency and suitability of the staff of a school or department, the Board will have regard to the circumstances and requirements of the locality and the organisation and co-ordination of the various schools in the area, the arrangement of the premises of the school for teaching purposes, the number of children in attendance, their organisation and proficiency, the nature of the approved course of instruction, the qualification of each member of the staff and his suitability for the work assigned to him, and the regular absence of any teacher during the school hours for the purpose of receiving professional training or otherwise."

<sup>3</sup> *Supplementary Teachers.—See Schedule I, D of the N.U.T. Code, page 50.*

The organisation of schools within definite areas so as to assign to each teacher scholars who are as nearly homogeneous in attainments as circumstances permit, is a problem that should be carefully thought out. So far as educational organisation and secular instruction are concerned, it is better to collect children from a reasonably large area into a school of moderate size, by means of conveyances,<sup>1</sup> than to distribute the same number of children into two or more schools closer to their homes; and similarly it is advisable, where two small schools are within easy reach of the same population, to make each school serve a distinct purpose, and thus to simplify the organisation and the teaching in each.

### (3) *Organisation.*

The organisation of a school is good if the scholars are properly distributed in accordance with their attainments and capacities, and if the teachers are qualified to undertake the special work prescribed for them.<sup>2</sup>

In large schools the greater part of the instruction in each class is generally assigned to one teacher, and this is the best arrangement if the teacher can treat each branch of the curriculum with success. If, however, the teachers are not proficient in all subjects alike, the work may be distributed so as to assign the instruction in certain subjects to those members of the staff who have special knowledge<sup>3</sup> of them. Each plan has its own special advantages, but the importance of preserving a unity in the teaching given in elementary schools makes the former plan the more generally profitable. In each case it is important that the teacher should treat his special section of the curriculum in relation to the whole course planned for the school.

In small schools the problem of organisation is more difficult, because it is impossible to have as many classes as are desirable. It will be necessary to group the classes for many subjects, though some individual instruction will always be required, especially in arithmetic. The scholars, combined in large groups for lessons<sup>4</sup> which can be given in common, can be graded in smaller classes for subjects, which require individual instruction. In this way the scholars may be made to feel that, whether they are taught in larger or smaller groups, their progress is watched, and that promotion is awarded to merit: an effective incentive to industry is thus provided.

<sup>1</sup> Education Act, 1902, Section 23 (1) says: "The powers of a council under this Act shall include the provisions of vehicles, or the payment of reasonable travelling expenses for teachers or children attending school or college whenever the council shall consider such provision or payment required by the circumstances of their area, or any part thereof."

## CHAPTER II.

## THE CURRICULUM AND SYLLABUS.

(1) *The Scope of the Instruction.*

The purpose of Articles 1 and 2 of the Code is to indicate the scope of primary instruction on its secular side, and to emphasise the importance of co-ordinating the whole work of the school. Though a curriculum is defined in those Articles, a uniform course of study need not therefore be adopted in every school: omissions or modifications will be recognised as circumstances may require. Moreover, <sup>1</sup> the number and the character of the subjects chosen, and the extent to which the subjects chosen may be developed in the teacher's hands, are left sufficiently open to enable individual authorities, managers, and teachers free to adapt the instruction to local requirements.

In schools for infants, as well as in those for other scholars, it will be necessary to consider, not only the quality and sufficiency of the instruction given, but also its suitability to the circumstances of the children and the neighbourhood. Teachers may still find difficulty <sup>2</sup> in introducing this variety and special character into their curriculum, owing to their long familiarity with the old system, under which all schools followed a uniform course of instruction, and under which a similar measure of attainment in that uniform course was expected from all scholars.

The rudimentary instruction will be practically the same in all cases. In all schools the younger children must learn to read and to understand what they read, to express their own meaning correctly whether in speech or writing, and to acquire some mastery of the

<sup>1</sup> *Code, Article 1.* "The principal aim of the school in relation to infants should be to provide opportunities for the free development of their bodies and minds, and for the formation of habits of obedience and attention."

"(a) Physical exercises should take the form of games, involving free movement, singing, and breathing exercises, rather than of set drill."

"(b) The youngest infants should be encouraged to employ their eyes, hands, and fingers in suitable free occupations, and the teacher, by talking with the children, by encouraging them to talk to her, and to ask questions, and by telling stories to them, should lead them to form ideas, and to express them in simple language of their own."

"(c) For the older children in the infants' department the above exercises should be supplemented by short lessons, in which the children are trained to listen carefully, to speak clearly, to recite easy pieces, to reproduce simple stories and narratives, to do simple things with their hands, to begin to draw, to begin to read and write, to observe, to acquire an elementary knowledge of number, to practise suitable songs, and to sing simple musical intervals."

"(d) Knitting may be practised by children under six years of age, but they need not learn to sew, and, with the special permission of the Board, sewing may also be omitted in the case of children between the ages of six and seven years."

<sup>2</sup> *Code, Article 2.* "It is not necessary that all the subjects should be taught in every class, and the curriculum as a whole may be modified when the Board are satisfied that the needs of the scholars, or the circumstances of the school, require it."

*3 Code, Article 2.* "In schools for scholars other than Infants the subjects described below should be taught in a manner suitable to the age and capacity of the several classes."

"(1) The English Language, including practice in speaking with clear enunciation, exercises in continuous oral narration, reading for information, both silently and aloud, and written composition. Throughout the course the reading books used by the scholars should include pieces of literary merit, some of which should be learned for recitation. In the higher classes one or two books should be read as a whole. Grammar should be taught in the higher classes so far as is necessary to secure an intelligent comprehension of the structure of the sentences which the scholars speak, read, or write, and of the functions of the several words in those sentences."

"(2) Handwriting, which should be taught so as to secure speed as well as legibility."

"(3) Arithmetic, including practical work in measuring and weighing, oral and

elementary processes of arithmetic. In all schools children should learn to draw, should get some knowledge of geography and history, and should be taught to observe the facts of nature and to acquire some knowledge of them at first hand. Girls should learn to sew, and, where it is possible, should get a thoroughly practical training in cookery and other household work. Boys should learn to use their hands deftly.

In the study of the facts of nature there must be some variation as between rural and urban schools, for the common things that provide experience for a town child are different from those which a child can observe in the country. Information on country life must not be withheld from the town child, and in neither case can the teaching given, though coloured by local conditions, be sufficiently technical to fit a child for any special trade. At the same time, in 1 country schools more stress will naturally be laid on country topics, though the child's outlook should not thereby be limited. The teaching of physical geography is easier in the country, because the configuration of the land is more easily visible; commercial geography and history are perhaps more easily grasped by town children; while arithmetic can be taught in relation to the work of the farm on the one hand, and to that of the counting-house or workshop on the other.

Country schools will now be placed in a sounder position financially than in the past, and they will be under a more centralised authority which has power to organise the teaching in every school 2 on the lines most suitable to the conditions of life and work in rural districts.

written exercises, problems, and in the higher classes practice in describing the processes used. Mensuration should be taught to older boys, and the use of literal symbols in working simple problems may with advantage be taught in the higher classes."

"(4) Drawing, including drawing from actual objects, memory drawing, and brush drawing; with other simple hand and eye training which, with the drawing, should lead, in the case of older boys, to instruction in handicraft.

"(6) Geography, based upon elementary notions acquired through observation lessons, nature study, and descriptive lessons, and leading to a general knowledge of the Earth and its peoples, and a more detailed knowledge of the British Isles and the British Dominions beyond the sea. Where possible the geography of the chief foreign countries should also be taught in some detail. The scholars should learn to use good maps, to make their own simple sketch maps, and in the higher classes to draw maps to scale."

"(7) History, which should include, in the lower classes, the lives of great men and women, and the lessons to be learnt therefrom, and in the higher classes, a knowledge of the great persons and events of English History, and of the growth of the British Empire. The teaching need not be limited to English or British History, and lessons on citizenship may be given with advantage in the higher classes."

1 *Code Article 2.* "(5) Observation Lessons and Nature Study, which should be taught with special reference to the surroundings of the scholars, and to the natural features, industries, and plant life of the locality, with the view of forming the habit of intelligence and accurate observation. In schools in or near the country nature study may be connected with the teaching of gardening to the older boys, if adequate equipment and efficient teachers are available."

"(8) Music, which should be taught by class singing, and should include the practice of good songs, together with reading at sight (in both notations, where possible), and a training in elementary musical knowledge. National songs should be freely used, even in the lower classes. The care of the voice and the proper application of breathing exercises should also receive attention."

"(9) Physical Exercises, including exercises in proper breathing. As a rule the official syllabus of physical training should be followed. Physical training should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air; and by careful cultivation of a correct posture at writing and other lessons."

"(10) Practical Housewifery (for girls only), including knitting, plain sewing, darning, and, in the higher classes, mending and cutting out. Where possible older girls should be given a practical training in cookery, laundry work, and household management. In suitable localities dairy-work may be taught."

Although technical instruction in the strict sense cannot be given in the elementary school, the Board are prepared to consider any scheme of Handicraft which is closely connected with the tools and materials used in special local industries. The general introduction of Gardening as a school subject in country schools is also a step most earnestly commended to county authorities, provided efficient teachers can be engaged for the work or can be found in the schools.

Probably the best arrangement for those scholars who will receive further education in Secondary Schools is that they should leave the Public Elementary School at the age of twelve years with a thorough grounding in the ordinary elementary subjects. Neither for such scholars, nor for those who will leave school altogether at twelve or thirteen years of age, is any extension of the course laid down in Article 2 of the Code considered necessary.

Article 5, however, makes provision for an enlargement of the curriculum for those who will remain at the elementary school to the age of fourteen or fifteen. Such scholars will, as a rule, receive no day school education after leaving the Public Elementary School, and a judicious extension of their studies under the guidance of well-equipped teachers will much increase the value of the last two or three years of their school life. A small modification of the ordinary course of lessons will often be sufficient to secure a wider and more practical instruction, and attention should always be given in this connection to local circumstances and the probable future occupations of the scholars.

It is not possible greatly to reduce the number of distinct subjects appearing in the time-table; they can, however, be co-ordinated.

<sup>2</sup> At a Conference between representatives of the N.U.T., the Teachers' Guild, and the Association of Assistant Masters in Secondary Schools, the following resolutions were adopted. They have been confirmed by the respective Associations:—

I. *Age of Entry to Secondary Schools and Length of Stay therein*:—"That, as a rule, the parents of a pupil entering by a means of a Scholarship from an Elementary School a school of higher type, should furnish a reasonable guarantee that such pupil will remain during the complete school course, covering a period of not less than four years. Such pupils should be transferred at an age sufficiently early to enable them to obtain the full benefits of the higher course of study." Probably such transfer should, in the generality of cases, take place at about the age of 12."

II. *Scholarships*. (i.) *Mode of Award*.—The examination for Scholarships should be of such a nature as to discourage preparation in a Special Scholarship Class, as such form of preparation is to be deprecated, both on account of its effect on the Scholarship Candidates themselves, and also on account of the injury inflicted on less intelligent children, who are thereby deprived of the stimulus of the brighter intellects. The selection should be made by teachers and examiners in co-operation. The tests should be both written and oral. The examination should invariably be based upon the curriculum of the school. Any attempt to compel the school curriculum to adapt itself to scholarship requirements is to be deprecated.

(ii.) *Income Limit*.—As scholarships provided out of public funds are in the nature of investments, and not a form of charity, and as the essential point is to get the best material, it is suggested that every scholarship should be divided into two parts—(a) Educational, (b) Maintenance. A reasonable guarantee should be given by the parents that the holder of the scholarship will retain it during the whole of the period for which it has been awarded. The maintenance portion may be taken up by the parents under conditions prescribed by the Education Authority.

<sup>3</sup> *Code Article 5*. "One or two subjects other than those named in Article 2 may sometimes be taught with advantage to older scholars. The Inspector will satisfy himself (1) that any subject thus taken is suitable to the age, circumstances, and capacities of those scholars who take it; (2) that it can be taken without interfering with the general course of instruction; (3) that it can be efficiently taught; (4) that the instruction will be given in accordance with a suitably graduated scheme; and (5) that, in the case of children not likely to be transferred to schools of a higher grade, the teaching is carried far enough to be of value to the scholars after leaving school."

<sup>4</sup> *Grammar*.—See suggestions for teaching Grammar, page 30.  
*Drawing*.—See suggestions for teaching Drawing, page 69.

The formal rules of grammar need not find a place in the time-table as a separate subject if correct speaking, reading, and writing are thoroughly taught. History and geography can be taught in connection with each other to a very considerable extent, and the former can be partly taught, and the latter illustrated, from the reading lessons; while the first notions of physical geography can form the subject-matter of observation lessons. Drawing, also, may be partially taught in relation to other branches of the curriculum.

The Inspector should be consulted as to improvements in a course of instruction under Article 2 of the Code, and his advice should be sought as to the competence of the staff to deal effectively with

- 1 a wider curriculum; no new subject should be added unless the teaching can be carried far enough to be of real value either as a mental discipline or as likely to lead to fruitful progress after the children leave school.

#### *(2) The Setting out of the Course for the year.*

The course of instruction in any school may be arranged with respect to complete years beginning at whatever time may be most convenient. There is no reason why the year should not be divided into terms, or half-years, in order to facilitate re-classification or re-grouping of the scholars more frequently than once a year, provided this does not lead to overpressure. Of this there is some danger where children are being specially prepared for scholarship examinations.

- 2 At the beginning of each period of instruction the teacher will draw up a general scheme of the work to be done. The Inspector may at any time require this scheme to be submitted to him, and may require its modification in any particulars that he considers unsuitable. An abstract in sufficient detail to show the work proposed for each class should be entered in the log book at the beginning of the year of instruction. If in the course of the year it appears to be necessary in the interest of the scholars, the teacher is at liberty to depart, to a reasonable extent, from the scheme either in the way of omission, or enlargement, or curtailment of the various parts, but any considerable change must be duly recorded.

- 3 The teacher should also draw up term by term a more detailed syllabus, which will enable him to see how his general scheme is being practically carried out. This should be available for scrutiny by the Inspector at his visits, so that he may see the stage of progress achieved, and what still remains to be done.

## CHAPTER III.

## METHODS OF INSTRUCTION APPLICABLE TO INFANTS, YOUNGER SCHOLARS, AND OLDER SCHOLARS.

*Instruction of Infants.*

The leading principle which determines the methods of education suitable to early childhood is the recognition of the spontaneous activities of the children. These are immediately recognisable as a love of movement, a responsiveness to sense impressions, and a curiosity which shows itself in the eager questions of intelligent children. Most children love to arrange things, and to rearrange them, and young children are readily absorbed in stories of strange or wonderful persons or events.

It is with these powers of childhood that the teacher has to deal, and the process of education up to five or six years of age consists in fostering their harmonious development, taking care, above all, that as little constraint as possible is put upon free movement, whether of body or mind.

What are known as "Kindergarten Occupations" are not merely pleasant pastimes for children; if so regarded, they are not intelligently used by the teacher. Their purpose is to stimulate intelligent individual effort, to furnish training of the senses of sight and touch, to promote accurate co-ordination of hand movements with sense impressions, and, not least important, to implant a habit of obedience. Each Kindergarten occupation should have its own purpose.

Care must be taken to see that the children are really occupied, and are not merely mechanically repeating what the teacher shows. A kindergarten occupation is not intelligently used if the children merely follow step by step without initiative the procedure of the teacher, with intervals of idleness, during which the teacher visits each child in turn to adjust his work if necessary. Whatever processes the child is called on to repeat should be shown as a whole and repeated as a whole by each child independently. Better still, the children should be allowed to devise their own applications of the material given them in order that they may realise their own powers of invention which otherwise may lie entirely dormant.

Formal teaching, even by means of Kindergarten occupations, is undesirable for children under five. At this stage it is sufficient to give the child opportunity to use his senses freely. To attempt formal teaching will almost inevitably mean, with some of the children, either restraint or over-stimulation, with consequent dangers to mental growth and to health.

Formal lessons may be given to children of five years of age, but any attempt which may be made to reach a definite standard of knowledge of reading, writing, and number at the age of seven should be subordinated to the more general aims of physical and

<sup>1</sup> *Instruction of Infants.*—See also pages 17; 42, 6; 126, 2; 58, 1.

mental development and training in habits of obedience and attention. The older children in some infants' schools have been periodically examined. This practice should be entirely abandoned.

<sup>1</sup> The following lists of occupations will serve as a guide to teachers of infants :—

*For Children between Three and Five years of age :—*

Games with music.

Guessing games and others (without music).

Recitations of nursery rhymes and very simple verses.

Picture lessons in which the children tell in their own words what they can see in the picture.

Mosaic with coloured tablets.

<sup>2</sup> Drawing in sand, and with free strokes on the blackboard or prepared wall.

Matching colours from a heap of coloured wools.

Setting a table (e.g. carrying a glass of water without spilling it).

Knitting with large needles.

Threading large beads in twos and threes, and higher numbers.

Arranging shells in twos, threes, etc.

Arranging pictures of number with cubes.

The laying of sticks.

Building with bricks.

*For Children between Five and Seven years of age :—*

To the above may be added—

Brush drawing.

Drawing with the pencil on paper.

Descriptive lessons.

Observation lessons.

<sup>3</sup> Story lessons from fairy tales, from the lives of great and good men and women, or from the travels of explorers, retold by the children in their own words.

Mosaic with coloured paper and gum.

Ruling simple geometrical forms.

Measuring and estimating length and weight.

Modelling in clay.

Basket work.

Cutting out patterns and shapes with scissors.

Ball games.

<sup>4</sup> Throughout these occupations children should be taught the care of school materials.

Lessons given to infants may often be associated with each other through some leading idea or ideas, and each object or idea should be treated so as to call into play as wide a range of activities as possible.

<sup>5</sup> For example, if the teacher takes a domestic animal as a subject for study by her class, she may usefully give a lesson in order to explain its habits and characteristics; a drawing lesson to impress knowledge of its form; a song or story bearing on its association with human life. If the children have reading books or sheets with

information on this animal they will be interested in seeing the written words at the same time as they are receiving oral lessons. If the teacher makes sure that the children are actually able to see and observe the animals chosen for the lessons, she can thus make the scholars interested in them, and can foster kind treatment of them.

1 Each lesson should give the children new impressions, but each should spring naturally from some other lesson, and should make use of the former impressions of the class. Children should always be encouraged to say without interruption and in their own words what they know, what they want to know, and what they think, about any object which is made the subject of a lesson.

Pictures have in modern times been freely introduced into infants' schools, and have added much to their cheerfulness and attractiveness. It is worth while to give careful thought to the choosing and arrangement of school pictures. In the first place, the walls of the room should be suitably coloured and the great importance of a good light makes it almost always desirable to have light tints. The pictures should be somewhat darker in general effect than the wall, especially when they are in monochrome, in order that they may be sufficiently prominent to invite attention. While the size of the pictures should be related to the size of the room, the pictures should be large rather than small, and each should be so hung that even the youngest child can see it without any difficulty. Pictures which are hung too far above the level of the heads of the scholars to be seen might as well be turned to the wall. Pictures should not be too numerous; a few which have been well chosen will meet the purpose in hand far better than a large collection even of the best. However good, too many pictures will bewilder children and fail to interest them. The best things to choose are reproductions in colour or monochrome of great pictures, and photographs of beautiful scenery or buildings. No attempt need be made to bring the subjects within the limits of what a child can understand, though a certain choice of subjects is inevitable. The beauty of a picture, as of a song or a poem, can be felt by children, even though they are unable to understand it fully. It is sufficient if a picture interests them, and when a picture fails to retain their attention it should be removed for a time and another should take its place. There is much to be said for securing a certain unity of subject in all the pictures in the same class room; for example, one room might contain historical subjects, another landscapes, and so on. Classes might then be transferred from one room to another with a view of keeping up a lively interest in the pictures. The pictures can with advantage be made the subject of lessons in which the children observe them and answer questions upon them. The occasional changing of the pictures and the choice by the children of those which they wish to have in the room, or of the place in which they should be hung, will

2 In addition to the pictures mentioned in this paragraph, it is the practice in some good schools to place on the walls of the play room, or some such suitable place, pictures of a less permanent type, such as the large sheets from illustrated papers. In other cases, such papers are sent to the schools by neighbours and distributed amongst the children.

add to the interest of school life. The principles just mentioned are equally applicable to the use of flowers in infants' schools. The grouping of the flowers and the selection of the place for them which shall give the greatest prominence to their beauty are points which deserve a good deal of thought. The teacher's desk may or may not be the best place.

By using the methods here suggested, elementary instruction will be divested of the abstract, unreal, and therefore unattractive character which it must have if free use is not made of the varying range of the child's impressions. Reading the story in a picture, and word building with constant reference to a picture of the object, will tend to make the significance of the spoken and written words much greater than if they are considered simply in the light of the representation of sounds by symbols. Writing on paper need not precede the development of a certain amount of skill in shaping with free arm strokes the curves which are found both in natural objects and in the letters; and simple questions in number can be worked by the children on concrete objects before any arithmetical symbols are introduced.

#### *Duration and Arrangement of Lessons to Infants.*

Lessons of a formal nature should never be given to children of three to five years, and children of five to seven years should not be kept at the same fixed occupation for more than fifteen minutes.

Each lesson should be followed by an interval of rest or singing before the next begins, and there should be abundant space in the infants' rooms for games and exercises. It is desirable that there should be a separate room for infants, however small be the school; and if the number of infants is considerable, the youngest children should be in a room of their own.

Difficult lessons, for example those in reading and number, should never be taken in the afternoon.

#### *Promotion of Children from Infants' Schools.*

The age at which a child should cease to be taught as an infant depends upon the child's proficiency, and upon many local circumstances. The premature promotion of children who are in age or attainments unfitted for it is greatly to be deprecated; but, on the other hand, the retention of children whose age much exceeds that at which, on the average, a child leaves the infants' school, is inadvisable, even though they are backward. Such children require stricter discipline and longer lessons; they do not find the games and singing of the infants attractive, and are not fit companions for them in the playground. Backward scholars of advanced age, who are not defective, taught in the lower classes of senior schools will usually make greater progress in knowledge, and form better habits, than if taught as infants.

#### *Instruction of Younger Scholars.*

Children leaving the infants' school should not at once cease to be instructed by the methods described above as appropriate to infants.

<sup>5</sup> See also footnote to Article 1, N.U.T. Code, page 14.

But the free movement and very diversified methods of the infants' school should be gradually exchanged for longer lessons and instruction of a more formal kind.

It is too often forgotten that though the teacher has to make the class learn the same things, each child must learn for himself, and must therefore be individually tested from time to time. The practice of making children read, recite and answer questions simultaneously instead of individually should be entirely dropped forthwith.<sup>1</sup>

Throughout the teaching of younger scholars it must be remembered that the children must not merely be taught to know, they must continually apply what they know to the doing of something. It is in this way that what is learned becomes a permanent part of the child's mental stock in trade, and that diffident children are made to discover that they know more than they suppose. We need not fear that by an appeal to the everyday interests of the child we may make education too easy, or deprive it of that bracing effect on the will which results from the effort to overcome the difficulties of studies of a more abstract and less interesting kind. Every teacher should understand that good teaching does not merely enlist a languid interest in the child, or allow him to be a passive recipient of information given; on the contrary, the purpose of teaching is to stimulate an active interest and attention. The special value of observation lessons and manual training lies in the fact that they help so largely to achieve that purpose; but every lesson should be designed to require the scholars to do something they have not done before, to overcome some difficulty not yet encountered. There is no reason to fear that the methods of teaching suggested in this chapter will lead children by an easy path, or will make no demands on them for vigorous mental effort.<sup>2</sup>

Every opportunity should be taken to apply what the children have learnt in one branch of the curriculum to what they are taught in other lessons, and the teacher should refrain as much as possible from giving the scholars ready-made information in cases where they are able to ascertain the facts for themselves.<sup>3</sup>

Above all, it should never be forgotten that the better the teaching the larger will be the part played by the class itself during the lesson. The shorter the time during which the children are passive recipients the better; and the methods of the lecturer are quite unsuitable for elementary schools.<sup>4</sup>

In Welsh-speaking districts observation lessons may be given wholly or partly in the vernacular.<sup>5</sup>

Out of school work is undesirable for children under ten.<sup>6</sup>

#### *Higher Classes.*

The instruction given to upper scholars in the ordinary subjects (Article 2) will have a more detailed character as well as a wider application than that given to younger scholars, and the scheme of instruction in these subjects, and in any others taken under Article 5,<sup>7</sup>

<sup>7</sup> Article 5 refers to one or two subjects other than those named in Article 2, which may sometimes be taught with advantage to older scholars.

should be such as to give occasion for some independent work by the scholars.

<sup>1</sup> One or two points may here be noted, which deserve the most careful attention of teachers concerned with the higher classes of a school.

The importance of pace—of alertness in work—is too often lost sight of. This results, principally, from the neglect of one of the most obvious of educational principles, that upon whatever subject a child is engaged, his attention should not be abstracted more than is absolutely necessary from the essentials of that subject to matters which are only accessory. In some schools this principle is seriously violated. To insist, for example, upon the very best handwriting when a piece of composition is being done, is obviously wrong. Of course, where writing has to be employed, it must be easily legible and must be neat; but more than that should not be demanded when the writing is only the means of conveying thought, and that much will be secured if the writing lessons have been effective. To ask for more simply abstracts the child's attention from the subject matter—composition—to another matter, handwriting.

But the most fertile cause of waste of time and of abstraction of attention is the use of the ruler in setting out arithmetic. Drawing lines which are mathematically straight has nothing whatever to do, directly, with arithmetic; and every time that the ruler is taken up from the desk, adjusted, used and replaced upon the desk, not only is valuable time lost, but attention is withdrawn from the proper subject of attention to another subject, which thus becomes of exaggerated importance in the eyes of the child.

<sup>2</sup> It is quite possible for scholars to have been trained to admirable accuracy in reading, writing, and arithmetic, and yet to be almost incapable of learning anything that has not formed the subject of a lesson. Such a failure in education may occur if the scholar is accustomed to look to the teacher for the simplest explanation and is in consequence not compelled to acquire the habit of self help. Children should, therefore, especially in the higher classes, be encouraged to study for themselves. A time can be set aside, in or out of school hours, for children to read up a subject—not to learn from a text book a series of facts or dates, but to pick out unaided the gist of a chapter and make the subject matter of a book their own.

<sup>3</sup> As a rule the homes are such that it is almost impossible to obtain home work from the children except at too great a cost. Preparation should always be arranged in the school itself; but teachers should, wherever possible, enlist the sympathy of the parents in the education of their children, and impress upon them that it is important for the complete success of the teaching that there should be some opportunity during each week for quiet and undisturbed work out of school.

<sup>4</sup> The lessons for which children over ten years of age can use a book ought to be prepared beforehand at the desks in the school-

<sup>2</sup> *Writing*.—See also pages 5 and 73, and footnote to Art. 2 (2), N.U.T. Code, page 16.

<sup>5</sup> *Homework*.—See page 25, 8.

room, and time so spent would seldom be wasted. It will be necessary for the teacher at the end of the preceding lesson to indicate in outline, without developing them, the chief points of interest in the portion of the book to be prepared. His task will then be to test the thoroughness of the preparation of the passages read by the scholars, and the intelligence of their appreciation of the subject matter. Mere learning by rote must, of course, be strongly discouraged. By well-directed questioning he should develop the true significance of what has been read, and he should encourage the children to draw their own deductions, giving as little suggestion as to the nature of the true conclusion as may be possible. Children in this way will be trained to think, and will acquire habits of self reliance and independent work, which are of no less value than mental activity.

Unless some such plan is followed, the oral lessons too often become mere lectures, which indeed may attract attention and awaken interest in a high degree, but are in their essence nothing more than the communication of information to passive audiences. The teacher of 1 older scholars, who is imparting to them the fruit of his own study, must avail himself of their growing intelligence, and among other things should try to make them use in the best way such sources of information as may be within their reach.

Every older scholar ought to possess some few books of his own, as, for example, a selection of good poetry, a dictionary, an atlas, and a history. These should be freely used in work given to him by the teacher, and he should also devote some portion of his leisure to the 2 careful reading of suitable books on a definite plan. Parents should be invited to further the education of their children by encouraging them to employ part of their time out of school for this purpose, as well as for the preparation of definite written or other work prescribed by the teacher.

<sup>2</sup> *School Books*.—In some German towns the scholars can purchase at a cheap rate the reading and other books used in the Public Elementary Schools of the district. In England the usual practice is to purchase reading books, etc., from a school supply contractor. There are objections in some school districts to allowing the scholars to take home school books. Might not some arrangements be made so that when parents are willing to buy copies of the Reading, History, and Geography books used in the school our boys should have the opportunity which many German lads now enjoy

## CHAPTER IV.

*The Teaching of English.*

It is said that many, perhaps most of us, never fully recover from the wrong notions we often gain when we first come to consider mathematical processes, but this danger is far greater and more insidious in the case of our language—for language is the most perfect and accurate instrument mankind has for the expression of thoughts and ideas, and the measure of our power to understand and use language is the measure of our power to receive instruction in any branch of knowledge. For this reason, if for no other, the teaching of the mother tongue is the most important part of school instruction. If the teaching is right, it will not only show the child how to express himself, but it will develop the power of thinking accurately and in connected sequence. If it is wrong, it will leave him the slave of half-understood phrases, incapable of reasoning, with a mind in which his passions and prejudices masquerade as thoughts.

1. The national literature offers as grave a problem to the teacher. If we try to create a taste for it and fail, the result is not neutral—a passive state, which at some later date may give way to liking. We 2 are sure to leave behind an active distaste. One of the richest sources of encouragement to a life of wide sympathies, of noble ideals, and of courageous endeavour, is dried up, and one of the most lasting means of pleasure lost.

3. The teaching of English should begin with the first link in the chain of processes by which the teacher addresses herself to the mind of the individual child. The first material upon which the teacher has to work is the child's hearing and reproduction of her spoken words. The procedure should be in general accordance with the series of steps by which the child has learned to talk.

One of the fundamental purposes of education is to ensure that the child has an ample fund of ideas about the world in which he lives, and that these ideas shall be, so far as may be, full and exact. 4. The question whether a child's ideas are either full or exact can be most certainly determined by calling upon him for an expression of them; that expression in the early stages must be by speech, and should be by speech, even when the child has learnt to write.

The psychology of this subject is of small practical moment; whether the child has general ideas before he can find words for their expression, or whether he learns by imitation to use words of which 5 the meaning comes later to his intelligence, every teacher will find that the child's ideas are vague and inexact, that the correspondence of word and thought is one of the first things to be learned, and that

1. Code Article 2 (1). “*The English Language*, including practice in speaking with clear enunciation, exercises in continuous oral narration, reading for information, both silently and aloud, and written composition. Throughout the course the reading books used by the scholars should include pieces of literary merit, some of which should be learned for recitation. In the higher classes one or two books should be read as a whole. Grammar should be taught in the higher classes so far as is necessary to secure an intelligent comprehension of the structure of the sentences which the scholars speak, read, or write, and of the functions of the several words in those sentences.”

See footnote, page 27.

*English*.—See also pages 49, 1; 75, 2.

consequently the need for system in the teaching of the mother tongue is greater than in other parts of the curriculum. Any teacher who will carefully question her younger scholars about abstract ideas such as "duty," or "time," or "growth," will find ample proof of the vagueness or inexactitude above referred to.

On the other hand, if the child's ideas are inexact, the number of them that the course of his life normally calls into being is neither large nor varied, and unless his interests are guided into new fields his vocabulary will be narrow, because he feels no need for increasing it.

It follows, therefore, that good teaching in English should attempt not only to induce accurate *expression* for thought, but also to enrich the child's vocabulary by giving him larger powers of expression and therewith a wider range of available thought. A wider influence than that exerted by his teachers or companions will be brought to bear as he comes more and more into intelligent contact with books. He ought to pass gradually from the free reproduction of what he hears from his teacher to thinking and talking about the contents of the books he reads. Every book read should provide him with new experiences and with models of the way in which such experiences should be expressed.

The problem of teaching English in the Elementary School is most profitably approached by remembering that for the majority of the children the English course can aim only at securing the ability to speak, read, and write plain English with moderate fluency, intelligence, and accuracy; we must therefore begin with *speaking* (and to emphasise this point it is well to recommend the postponement of Reading), and treat all such branches as spelling, grammar and etymology as later auxiliaries to the end above defined, and determine their place in the curriculum accordingly. There has been in the past too little oral composition in any of its various forms and far too much fruitless practice in spelling.

### I.

Practice in speaking English may be (1) incidental, (2) systematic. All lessons and all customary communications with the teacher and with each other afford opportunities for (1) which should be used by taking care so to ask questions that a majority of the answers must be given in continuous speech, and by insisting that all answers are given in a clear voice. Provided the expression is full there is no reason why it should not be required to be correct also, but to insist upon young children expressing themselves in formal logical sentences in all cases may result in suppressing some part of the child's ideas about a lesson. This incidental practice should be supplemented by systematic instruction, which after a few preliminary exercises (games, rhymes, and familiar talks), designed merely to give the children confidence in speaking, will be directed upon four distinct objects: (a) readiness and fluency, (b) clearness of utterance, (c) taste, (d) grammatical accuracy.

A. These lessons might take the following forms:—

5 1. Talks with individual children about familiar things—them-

selves, their homes, their holidays, &c. In these the children will do most of the talking from the first, and their language will approach most nearly to the vernacular.

<sup>1</sup> 2. Simple rhymes and games of a dramatic cast, which are at first a form of (verse or prose) repetition, but might possibly (in connection with (3) below) be developed into something more spontaneous if classroom conditions allow.

<sup>2</sup> 3. Stories told first *to* the class by the teacher, afterwards retold *by* individual children. These should proceed from the simple nursery tale of the recurrent type to freer forms of fairy story, in all of which, however, there is a certain reiteration which seems essential to this form of literature and is a great aid to reproduction. With the older infants an attempt might be made to dramatise these (as in (2) above).

<sup>3</sup> 4. Talks *to* the children about unfamiliar objects, or pictures, to be afterwards reproduced *by* individual children. Such descriptive lessons will be entirely removed from the category of observation lessons or of Nature Study, and are to be used primarily as a means of teaching English. In order that the children may be habituated to the right use of expressions where they have shown a tendency to go wrong, it may be desirable to devise lessons which, though different in subject, lead up to the same ideas and expressions, and the number of different objects or pictures used is immaterial, so long as the interest of the children is not exhausted by too frequent repetition of the same ideas.

<sup>4</sup> Throughout the lessons it is essential that the children should be trained and encouraged to talk *individually*. Collective answering or collective repetition by the class of the words of the teacher not merely renders the exercises described above valueless, but is an actual hindrance to development of genuine thought and free expression. Nor should the part played by the children in the lessons be limited to reproductions of the information given by the teacher or answers to questions put by her. They should from the first be encouraged to find subjects of interest on which they can talk, and to ask questions both of the teacher and—under suitable restrictions—of other scholars.

<sup>5</sup> If the teacher begins with exercises of the first type suggested, the children will grow accustomed to the sound of their own voices, and will find it easier to overcome that reserve and inarticulateness which have often been pointed to as national characteristics. The absence of liberty of free expression in elementary schools probably tends to accentuate this reserve, and teachers should remember that it is a disastrous result of school attendance if the fettering or repression of liberty of speech makes children less communicative and less able to express their thoughts, and consequently less capable of clear thinking.

<sup>6</sup> In exercises 3 and 4 the children will not only learn fluency of expression, but the connection of parts in a narrative or description. This connection is more obvious in narration than in description, and 3 should therefore precede 4 in order of instruction.

<sup>1</sup> B. Practice in free expression will offer ample opportunity for the correction of careless or faulty pronunciation. By calling attention to the sounds of which words are built up, the teacher can prepare the way for learning to read, and make the progress in this art, when it is commenced, much more rapid and secure. Children are very easily interested in the observation of the sounds they make, and soon become acute critics of any deviation from the normal in the speech of those around them. Their great mimetic powers in matters of pronunciation are well known, and this faculty should be made use of by the teacher. Whilst faulty methods of pronunciation may be corrected wherever they occur, a beginning may also be made in the systematic observation of the sounds which go to build up words. A useful exercise may be found in selecting sentences containing several examples of sounds\* often pronounced indistinctly or improperly, for repetition by the scholars individually, the faults to be noted and corrected by the listening scholars themselves.

Two warnings are necessary at this point. In the first place, it must not be assumed that a dialetical variation from the standard speech is necessarily bad, and such variations must not be confused with careless pronunciation. As a rule, a compromise between the standard speech and the local dialect will be the best solution attainable. But care must be taken to exclude glaring variations from the normal pronunciation of the vowels, and to correct the slipshod habit of utterance so common to children. In the next place, it is of great importance that the systematic observation of sounds, though important, should not be developed at too great length; for the main purpose of this part of the teaching is to prepare for the difficulties which will be encountered when reading is once begun, and it should not take long to show the child that words are composed of sounds, not of letters, and that letters are only symbols—often very imperfect—for these sounds.

<sup>3</sup> Experience has shown that it is best to begin by calling attention to the sounds that are produced by the visible organs of speech, that is by the lips, and to proceed later to those produced by the organs only partially visible or wholly invisible. The teacher should therefore begin with the lip consonants, and, moreover, those in which the vocal chords are at rest, taking those in which the vocal chords are vibrating at a later stage. Such a sound is “p,” and this sound can best be observed when it occurs at the end of a word, rather than at its beginning, or in the middle, for at the end of such a word as “up” it can easily be isolated and repeated after the word has been pronounced, thus: up—p.

\* Different faults will be found in different districts. A few examples are given: *chewb* for *tube*, *jew* for *dew* or *due*, *on'y* for *only*, *wa'er* for *water*, *free* for *three*, *hink* for *think*, *farver* for *father*, *fever* for *feather*, omitted *h*, redundant *h*, omitted final *d* or *g*.

<sup>2</sup> Difficulties not infrequently arise through the injudicious and indiscriminate condemnation of dialectic expressions as wrong or bad, when they may be local survivals of pure Saxon. The child hears these expressions at home constantly and therefore doubts the authority of the teacher, and should the parent disagree with the teacher, the authority of the latter will run serious risk of being destroyed. It is generally possible to explain that such expressions, though at one time perfectly good, are now no longer used.

The next step will be to recognise this sound at the end of other words, then in other positions in words, and only when this sound is recognised wherever it occurs should an advance be made to the corresponding voiced sound "b," which can then be handled in the same way. Progress will after this be easy to the lip spirants "f" and "v" and to the tongue and palate sounds "t" and "d," the gutturals "k" and "g," and the corresponding more difficult spirants and fricatives until all the consonants have been recognised. It is possible that a limited use of diagrams or blackboard sketches may help in the elucidation of some of the sounds, but it must be remembered that young children find it hard to understand a section, and diagrams are generally put to more profitable use, if they are studied by the teacher himself as a means of fully grasping the formation of sounds which he will make the children imitate from his own lips and mouth. After the consonants will come the study of the vowels and diphthongs, but by this time the child will have commenced to read, and new interest will have been added to his investigations; for the teacher should guide the child to find these things out for himself, they should not be presented to him for mere reception and repetition.

An important auxiliary in securing purity and distinctness of utterance should also be found in a wise use of the singing lesson, and particularly will this be of value in the treatment of the vowel sounds. In connection with the singing and reading lessons a proper use of breathing exercises will greatly facilitate the attainment of clear and fluent speech.

Throughout this stage the learning of the mother tongue should be closely connected with the child's other activities, and should as little as possible be made the subject-matter of special lessons; even after reading has begun, practice in sound observation and in free oral composition should be associated with the whole of the school work. This method will afford more time and opportunity for the prosecution of the right aim in connection with the reading itself.

C. So far Repetition has been spoken of as a means, and its formal aspect only has been dwelt on. But even in the infant school repetition has a culture value of its own, which becomes greater and greater in the higher classes. This value depends largely on its form, but partly also on its subject-matter. So long as the poetry chosen for repetition is good in itself, and has a fascination for the children, it is of little moment whether or no they wholly comprehend what they learn. Indeed an element of incomprehensibility is perhaps part of the fascination. This should be remembered in selecting poetry for children. The pieces must of course have a meaning for them, but not necessarily their full meaning.

Young children need not be conscious that they are getting poetry by heart; their memories may retain the lines with no conscious effort, even after they have learnt to read. Fine passages should be listened to and read aloud so frequently that they become a part of the child's life, and when the children are old enough to wish to

<sup>3</sup> Many teachers find that some slight acquaintance with phonography, such as may be gained by reading Pitman's Shorthand Teacher, gives considerable assistance in securing definite enunciation.

learn poems by heart, the teacher need only consider the excellence of the poem and whether or no the children are interested in learning it. There is no necessity for every child to learn the same passages (for a passage never makes the same appeal to all children) or the same number of lines. The pieces selected should always be read to the teacher before being committed to memory, but should be learnt individually, and never by the class in unison. Such a device is the merest mechanical drill, and destroys any value recitation may have. Learning by heart is valueless unless in the process the memory is enriched with a store of beautiful thoughts expressed in beautiful language, which will serve as a touchstone to the scholar's own mode of expression, and be a constant source of pleasure to him.

These exercises indicate all that is necessary for a proper use and appreciation of English, and should be continued in one form or another from the beginning to the end of the school course. Thus A (1) will appear as composition, first oral, then written, on the actual experiences of the pupils; A (2) will be developed into repetition of lyric, narrative and dramatic verse, and occasionally of narrative and dramatic prose. A (3) into tales about mythical, legendary and historic persons and events; while the geography and nature-study lessons will supply material for A (4), which will of course be a different lesson from the geography or nature-study lesson itself.

Nor should the vocal exercise B be discontinued. Mistakes in quantity of vowels and in difficult combinations of consonants will require systematic correction long after the infants' school stage.

## II.

The introduction of reading facilitates some of these processes, but in no way alters their essential character.

A. When the children have learnt not merely to name words, but to read, reproduction of the lesson may take the place—even at a fairly early stage, but then only partially and gradually—of A (3) and (4) above. This means that the lesson shall be summarised orally, first with the teacher's help, and then without aid. The teacher should gradually decrease the amount of his assistance, first, as the repetition of the individual lesson proceeds, and then from the outset, until but little assistance is given to the older classes. But no lesson which is worthy of inclusion in a reading book should ever be finally quitted until some reasonable account of it in their own words can be given by the scholars, and has been given by a fair proportion of the class—the particular children selected being varied from time to time. With the younger children this reproduction will be confined, as a rule, to relating the general scope or drift of the lesson; anything more exacting will certainly drive the pupil to an attempt merely to recall the actual words of the book. But in the upper classes the children must grapple more closely with the language, and should finally be able, after study and explanation of words and constructions, to summarise paragraph by paragraph.

Three things follow :—

(1) An organisation of the classes of a large school is involved, different from that which usually prevails. The exercises under A (3) and (4), whether in their simple form or as modified by the introduction of reading, must be taken with *small* sections at a time. Consequently a large class of fifty or sixty children should be organised in sections, one of which is taken at a time for the lesson in English. Opinions differ as to the desirability of taking the boys and girls of a mixed class separately; but whatever principle may be adopted, only one section should be taken at a time, and the section not in hand must be given work to do on their own account. It is

<sup>1</sup> not to be supposed that a class worked in sections need be an idle class. Silent reading is possible even in the lowest class if the teacher encourages the scholars to conquer difficulties on their own account. This plan is in effect an imitation of the conditions under which teaching is *perforce* conducted in rural schools—conditions which have not been found unfavourable to individual effort and to the production of solid results.

(2) One of the ways of employing the children who are not under instruction is to allow them, when they have made any progress in reading at all, to read at the desks on their own account books which interest them. In fact, the twofold discipline which combines <sup>2</sup> careful study of a reading lesson in class and wider general reading is the accepted method of the more advanced study of English Literature, and may very well be extended downwards. But at this stage the general reading may be done in the school instead of at home.

(3) As soon as the children can read their poetry, repetition (which has so far been taught orally) should be regarded as the last stage in a third and more extensive form of reading. The poem should be read, explained, and re-read till the actual words are known by heart. <sup>3</sup> Here, as in reading, the teacher of a lower class should confine his explanation to the general scope of the poem, but with the older children some of the distinctions in diction and form between prose and poetry might be considered. It is better, however, to do nothing in this direction than to attempt too much, for the unskilled or irreverent dissection of a poem is destructive to the sense of beauty.

B. The oral account of the reading lesson, descriptive lesson, or story may be gradually replaced by written composition, though the practice of summarising orally should never be dropped altogether.

<sup>4</sup> The process is essentially the same, and the transition from speech to writing may be made as gradually as the teacher has the skill to make it.

The transition to the beginnings of written composition is best made if the teacher writes on the blackboard at the children's dictation exercises in oral composition. This will enable him to <sup>5</sup> explain the divisions of a passage into sentences, which may then be transcribed by the class. This exercise may be supplemented by

<sup>1</sup> Organisation.—See also pages 14, 1; 15, 4; and 16.

<sup>3</sup> Recitation.—See pages 66, 2; 32, 4; 75, 2.

<sup>5</sup> Composition.—See page 49, 1.

the transcription and *occasional dictation*\* of carefully-prepared short and simple passages from the reading books. In these ways the children will become proficient in spelling words in their vocabulary. No spelling lessons as such should be given, for it is absurd to learn to spell words outside one's vocabulary. Spelling is only needed when we wish to express our thoughts in writing. At the same time, some children learn to spell more quickly than others, and transcription will, therefore, be needed longer by some than by others. In the matter of exercises it is impossible to expect the whole class to progress at the same rate. It will, however, be found that if children are taught to read scientifically, and if the reading books used introduce irregularities of spelling in a systematic way, and not before the stage when the normal sound of certain collocations of letters has been established, the difficulties in spelling will be greatly reduced; transcription may then cease to have any considerable importance, even though it may not disappear entirely with the formal spelling lessons. A well-graded infant's reading book is essential to the simplification of the difficulties of learning to spell correctly.

The next step in written composition will be the direct writing of a sentence or two referring to some object—e.g. a picture or object in the classroom; and so by degrees the scholars may pass to the reproduction in their own words of a story they have read silently or have heard on the previous day from the teacher. A little care

<sup>1</sup> will make it quite easy to prevent this from being a mere exercise in memory, and children with strong verbal memories should be expected to produce the material with variations. In no case, however, should the story be a very short one. It should take ten minutes or a quarter of an hour to read, and may then be made an exercise in oral composition, or a subject for discussion, the written composition being required on the following day.

By the time the child has learnt to write without undue need of attention to the process itself, he should be able to express orally, with ease and clearness, a story heard, an incident seen, or a lesson received; and can then begin to use the same readiness of expression in writing. It is of the utmost importance to remember that there is

<sup>2</sup> *no* difference between the proper style of written and that of oral composition, as these should be practised by children under fourteen years of age or even older. In both, the same simplicity, which is not to be confused with poverty of vocabulary, the same directness of narrative and clearness of construction are to be required. Good written English is only more careful spoken English; in writing there is time to set the thought out more clearly and fully, and to arrange and finish off the sentences more carefully.

The length of the composition should naturally increase as facility of expression is gained: and in the higher classes facility is an object

<sup>3</sup> of equal importance with accuracy. Excessive attention to neatness,

\* Dictation, it must be remembered, has another use in training the scholars to listen carefully.

waste of time in the distribution of pens, exercise books, etc., an insufficient length of time for the lesson—these and similar causes may not merely reduce the amount of composition done by a class within such narrow limits as to be almost valueless, but may even encourage the natural slowness of thought and expression which it is one chief aim of the lessons in English to eradicate.

It should be remembered, moreover, that it is as easy for a child to write on one subject as on another, provided his interest in and his knowledge of it are equal. The advance made should be in the mode of presenting the subject rather than in the subject itself. The structure of the sentences, their relation to each other, may become <sup>1</sup> more highly organised, the use of illustration and comparison may become more frequent and varied, and in both directions the teacher may be helpful and suggestive, but he should watch a fitting opportunity and not introduce a new construction, still less attempt to develop one until he has noticed its occurrence in the oral lesson. No matter how advanced the composition may be, the oral exercises should never be discontinued.

Thus composition, either oral or written, should form a part of every lesson given in the school; it should be the common bond which <sup>2</sup> unifies the whole curriculum, and its effect in increasing clearness of thought and expression will be evident in every part of the school work.

### III.

Two subjects remain of great, though not of prime importance.

A. *Reading*—The exercises outlined above (I.B.) point naturally to a phonetic method. But if the introduction of printed symbols is postponed until the children have had considerable practice in the exercises for free expression and for sound drill, the chief advantages of this method will have been secured, and it may be left to compete with other methods on its merits.\* It seems desirable, however, <sup>3</sup> that the symbol when introduced should be associated *at once* with the sound. This implies the postponement of reading to a later stage than that at which it is now generally begun. By this postponement it is secured that the symbols, when introduced, will represent sounds which the children have already mastered from their exercises in sound drill, and ideas with which the exercises in free expression have made them familiar.

The main purpose of teaching to read is to enable the scholars to master printed or written matter for their own information. Silent reading should therefore be practised, especially in the upper classes. <sup>4</sup> The teacher can help the younger scholars to become proficient in reading by requiring them to read passages silently, and then to give an oral account of their meaning in their own words. Another method of preparing scholars to read for themselves is to train them to read aloud, after preparation, in such a way that the meaning of the author can be followed by the teacher and by the class sitting with closed books.

\* But children should *never* learn to read through the simultaneous repetition of sounds suggested to them by the teacher.

1 The reader must be trained to mark the division into clauses or sentences, but until this point has been mastered it is better to leave anything more in the way of expression to be spontaneously supplied by the scholars themselves. It is plain that matter in simple narrative style is the most suitable for this method of treatment. It must be remembered in connection with the method here suggested for handling the early reading lessons that the exercises in sound drill will have already trained the scholars in clear enunciation, and that the habit of recitation and of free oral composition will have encouraged a natural style of expression.

2 But the cultivation of taste and the inculcation of a love for good books are also most important objects to be aimed at in teaching the English language, and in oral reading the scholars should seek to give appropriate utterance to the impressions which they receive from the passages which they read. This purpose of reading aloud is akin to that of the recitation or singing lesson, and it is essential for these lessons to choose pieces, whether of prose or poetry, which have a value as literature. It is clearly necessary in the first place that the structure, and, in some measure at least, the meaning of the passages read, should be first mastered by the scholars; without this the reading must be mechanical, because unintelligent. It is also essential that proper care should previously have been bestowed in the use of free and oral composition, and in that accurate enunciation of sounds and phrases which is dealt with above. A natural and intelligent method of speech in the verbal expression of a child's thought in his own way is the only sure basis upon which a suitable expression in rendering the thoughts of others can be built, even though it is true that the child in this respect can learn much from the example of a good reader.

3 Two warnings are necessary. Exaggerated emphasis, declamation and gesture are quite unnecessary; the pieces chosen are to be read with feeling and intelligence, but they are not to be acted. Secondly, the children must, as a rule, be trained to feel and understand what they read by a process which is in some degree imitative, but to require a direct imitation of the teacher's modulation and mode of expression will prevent the child from realising and expressing for himself the meaning of the passage he reads.

4 This caution is, however, not meant to preclude the teacher from offering good models of reading aloud to his scholars, but he should read passages long enough to exemplify a suitable method of expression, and he should not, as a rule, use these passages for the practice of his class.

5 When the class has listened to one of these specimen passages they may be allowed a few minutes to read the succeeding paragraph or paragraphs in silence. The teacher may then, by suitable questions and explanations, elucidate the meanings of any difficult or new words and phrases, and when this has been done some, or all, of the children may read aloud singly and in turn a suitable portion of the passage thus prepared, while the teacher and the class listen with closed books. The reader should be interrupted as little as possible while actually reading aloud, but his class-fellows should be

encouraged to listen critically, both to the enunciation and expression, and where these are imperfect the correction should come, as far as possible, from the class rather than from the teacher. In this way, lessons of pronunciation, spelling, and composition may be driven home. On the other hand, any attempt to make the reading lesson an opportunity for conveying information on the subject-matter (the history, geography, etc.) of the passage read must be handled with great care, especially in the case of the younger children. As they grow older and more skilful in the art of reading, and as mastery of the meaning before utterance of the words becomes a matter of habit, more and more attention may be given to information in the branches of knowledge which may properly be suggested by the context; in silent reading attention will of course be concentrated on the subject-matter.

The selection of reading material is as important as the method of using it. The number of books read in a year should not be limited to the two or three prescribed by former Codes as a minimum. Considerations of expense no doubt prevent an unlimited supply of books for each child: but much may be done to overcome this difficulty and to enlarge the child's reading by arranging for the interchange of books between different departments of a school, or even between different sections of a large class, if organised in the manner

<sup>1</sup> described in Section II. A. The reading books should contain stories and passages of literary value only, descriptive, narrative, or declamatory. One at least of the books read by each child should be a continuous whole, and studied thoroughly both from the point of view of subject-matter and from that of the elements of literary form. Other reading books may well contain varied selections in prose and verse. The teacher should read selected passages of literature as a regular part of the curriculum; these should be followed by conversation on them between him and his class, and so far as possible the children should be encouraged to read suitable books by themselves at home.

In some good schools the aid of the parents has been successfully enlisted, and they have encouraged their children to read aloud for a few minutes each day. A little systematic home exercise in reading aloud will be an excellent supplement to the insufficient oral practice, which is all that is possible in a large class at school. In this connection the help of the National Home Reading Union will be found a fruitful means of continuing the work commenced in school. Scholars should be encouraged, if their homes are of the better class, to form their own reading circles with the help of friends and

<sup>2</sup> relatives, while in other cases the younger teachers may well serve as leaders and establish circles in the school buildings in the evening, with the consent of the local education authority or the managers. For the purposes of these reading circles the public libraries might also be of great assistance, not only by supplying the books recommended in the lists of the Union, but by making its plan of operation known, and giving help and advice in the formation of circles. And

when the scholar is old enough to join such a circle his studies need not be any longer confined to subjects of a literary nature. History, Geography, Political Economy and subjects allied to these may all be fruitfully undertaken, and in proportion as the course in English within the school has been at once systematic and stimulating, the child will find himself at his entrance into life endowed with the power of thinking accurately and consecutively, and of expressing his thoughts in clear and appropriate language : his mind will remain as open to new impressions as in his earlier years while strong enough to face the effort of continued study in those fields for which he is by taste and training best suited.

<sup>1</sup> B. *Grammar* should be regarded as entirely subsidiary to the main end of the English lesson as originally defined ; but with this proviso, it may have quite a prominent place in the curriculum of the older children, even to the extent of appearing as a separate item in the Time Table. With the younger scholars, on the other hand, it should be discountenanced altogether.

Until a child has learnt to think consecutively and to express his thoughts clearly, he has no basis for that more formal study of language which is called Grammar. It is impossible for a child to learn a language through its Grammar, and this is more true of English than of most languages, for in English the meaning is for the most part determined by the relation of words to each other in the sentence, not by any change in their forms. Not that simple grammatical distinctions are altogether beyond the comprehension of scholars in the lower classes, or that they may not be employed with some advantage even there by a skilful teacher. But the use of grammatical terms distracts the attention of teachers and pupils alike from what at this stage is all important, viz. practice in the *use* of good English, and the comparative easy and mechanical character of a grammar lesson is a temptation to the weaker teacher.

<sup>2</sup> <sup>3</sup> The correct use of words, which is still his main business, is a matter of continuous practice, not of rule. To form the habit of correct speech time and reiteration are required, and the process must begin as early as possible. But to analyse the forms of expression that one has been trained to use requires a somewhat developed intelligence. The need for analysis does not arise until written composition is begun, and then only in a simple form. Beyond this the *direct* effect of grammar on composition does not appear to be great.

<sup>4</sup> The aim of English Grammar, as of all grammar, is to make evident the conditions of clear expression, but this end can never be reached by attention to the word. The attention must always be fixed upon the word, the phrase, or the clause, not in itself, but as it occurs in the sentence ; in other words, it is the function of the word or phrase or clause which is grammatically important. When therefore a scholar uses ambiguous expressions in the composition lesson the fact should be pointed out and the conditions of clear expression should be explained.

The analysis of the parts into which a well-constructed sentence may be divided should be made in every case by the children, and should not be pushed further than their thought feels need for it.

1 Mere verbal distinctions and the laborious division of phrases or clauses into their constituent parts are valueless, and tend to obscure rather than reveal thought.

2 Unfortunately, many children acquire a ready facility in applying mechanically the most elaborate analysis that perverted ingenuity can devise, and this is probably the reason why analysis has had an undeserved vogue in the elementary school.

When the pupil begins to encounter in his *reading* sentences of complicated structure, or (in verse) of unusual order, the need for analysis is felt; similarly the need for some knowledge of word-formation and derivation arises at this stage as a means of dealing 3 intelligently, by comparison and classification and not by intuition or memory, with the increasing array of new words unfamiliar in oral speech. Analysis, in fact, supplies a new set of formulae under which the meaning of book-language (and especially of the language of the higher poetry) can be concisely discussed.

The *minutiae* of Parsing should be completely omitted. When the relation of a chief word, or of a phrase, or of a whole clause, to the rest of the sentence has once been established it is unnecessary 4 to proceed further. There should be no Grammar teaching apart from the other English lessons, it should arise naturally out of the reading and composition lessons.

## CHAPTER V.

## THE TEACHING OF ARITHMETIC.

In the past more time, as a rule, has been devoted to arithmetic than to any other subject in the Time Table, and in some cases an undue proportion of the time has been spent in working examples. If from the very first the aim of the teaching were to make the children understand the reasons of the processes that they employ, the time given to arithmetic in many schools might be curtailed without the effect of the instruction being impaired. It should be recognised, however, that even elementary lessons dealing with number involve a considerable strain upon the children, and it is consequently recommended that these lessons should generally take place during the morning when the children's minds are fresh, and not in the afternoon session. In the case of infants and younger scholars anything in the nature of a competitive test should be avoided, and under no circumstances should the lesson immediately succeeding be of a difficult character. The babies' classes in infant schools should not receive any instruction in number.

The best methods of teaching even the most elementary processes of arithmetic are matters of controversy, and in what follows it is proposed rather to make general suggestions as to principles, than to trench on debatable ground by laying down precise details of method.

It is important that arithmetic should be treated not merely as the art of performing certain numerical operations; it should be taught with the view of making the scholars think clearly and systematically about number. It is thus clear that written arithmetic should be an appendage to mental work rather than the reverse. In the earlier stages the use of writing materials can be advantageously confined to setting down sums that are worked mentally. Later on, the numbers will be too complicated for the actual operations to be performed without the help of pen and paper, but here it is essential that the children should master the data of the problem and have a clear knowledge of the reasons underlying the various steps. It is also desirable that the children should make rough estimates of the answers required and thus be prepared to check their own work.

The simpler rules of arithmetic should be regarded by the teacher and by the children as being the result of the application of common sense to operations with number as applied to concrete objects, money, weights, lengths, and areas.

The teaching should, however, from the very first embrace problems and examples that require special methods for their solution, and scholars will thus be trained at an early age to use their intelligence, and not to place undue reliance upon the mechanical application of general methods. The teacher will have

<sup>1</sup> Code Article 2 (3). "Arithmetic, including practical work in measuring and weighing, oral and written exercises, problems, and in the higher classes practice in describing the processes used. Mensuration should be taught to older boys, and the use of literal symbols in working simple problems may with advantage be taught in the higher classes."

<sup>1</sup> This recommendation should be kept in mind when the Time Table is prepared.

no difficulty in devising questions in mental arithmetic which are easy by special methods but too difficult for mental work by ordinary rules.

No difficult examples should be attempted by the scholars until the process to be applied has been thoroughly worked out by the class.

<sup>1</sup> The necessary training in mechanical skill should be acquired rather by repeated practice in carrying out principles which the scholars thoroughly understand, than by attempting to work examples in rules of which the underlying reasons have not been firmly grasped.

Lessons in arithmetic will thus be of three kinds, which may be <sup>2</sup> roughly described as theoretical, practical, and problem lessons, respectively.

In lessons of the first kind the scholars, under the guidance of the teacher, should construct the process or rule. Until this has been <sup>3</sup> understood by the most backward children, all additional difficulties arising from large numbers, competition or efforts after speed should be most carefully excluded.

The practice lessons may be devoted to the acquisition of neatness, accuracy, and speed, in applying the rules which have been worked out. Some teachers consider it desirable that examples should be <sup>4</sup> proposed by the children. Such a course tends to encourage the inventive powers and also to train the scholars to distinguish between the essential and unessential data.

The best proof of effective teaching in arithmetic is the ability of the scholars to work problems, and good results cannot be expected if undue attention is paid to abstract or difficult examples. The working of arithmetical problems can be introduced into the teaching at an early stage. Problems, to be of service in increasing the power of thinking out laws of number, should be properly graduated, and <sup>5</sup> should not make too great a demand on power to use high numbers; they should rather be designed to cultivate the power of mental analysis by treating the problem as a succession of applications of simple processes. The children should be encouraged to think over a problem before beginning to work; and they should often be asked to state step by step in their own words how they intend to attempt them.

Throughout the school the instruction in arithmetic should be made as realistic as possible. Infants should learn by the aid of actual objects, such as bricks, beans, cubes, or balls in a frame, to analyse numbers from three to ten, and combinations of these numbers not exceeding twenty, or, in other words, to find out in <sup>6</sup> what different ways these numbers may be arranged. Some teachers prefer to confine the attention of the children to a single illustration such as Tillich's bricks, or the ball frame, arguing that multiplicity of illustration tends to distract the children from the notion of number that is to be imparted, whilst others consider that a variety of objects is essential to the change and variety necessary to enlist a young child's active co-operation. In any case it is certainly better

<sup>5</sup> Many teachers encourage their pupils to frame problems for themselves, utilising figures placed before them on the black-board. This plan provides also an excellent exercise in oral composition.

that the children should themselves handle the objects rather than merely see them. Thorough familiarity with the numbers two, three, etc., should be aimed at rather than rapid progress, and it is hardly possible to overstate the necessity of patience in the earlier stages of teaching this subject. The use of sets of objects will make it possible from the very beginning to teach the children to add, rather than to count by units; the latter bad habit, once formed, is very difficult to eradicate, and will adversely affect the arithmetic throughout the school. Multiplication tables should not be learnt before they have been constructed and understood, and are, therefore, out of place in an infant school.

<sup>1</sup> The written expression of sums that can easily be performed mentally presents great difficulties to young scholars. The written work of the children who have just left the infant classes should be confined for the most part to the expression of sums worked mentally. With the general acceptance of the principle of using small numbers this should not be difficult to arrange.

<sup>2</sup> When the children have mastered the principles underlying the simple rules and the construction of the multiplication table, it will be found advantageous to insist on great rapidity and accuracy in the mechanical operations involved. If this is done, the children will be free to concentrate their attention on the novelties presented by more advanced work without being distracted by the difficulties of mere computation. A premature advance to numbers necessitating the use of pen and paper will be found to be false progress.

<sup>3</sup> Even in the later stages recourse to concrete illustrations is advisable. For example, in dealing with areas and volumes the idea of measurement by unit area or volume should be illustrated by building up areas or volumes out of unit squares or cubes. Physical illustrations of least common multiple and highest common factor may readily be devised by the teacher. Diagrams should be freely employed; and squared paper can be used with advantage in all exercises relating to measurement, and is the best means of introducing the idea of scale.

To enable this practical work to be done, every school should be provided with—

- (a) Foot-rulers graduated in inches and tenths of an inch and also in centimetres and millimetres. (These should have square edges.)
- <sup>4</sup> (b) Cords with feet, yards and metres marked upon them.
- (c) Imitation coins.
- (d) A pair of common scales with the smaller weights such as ounces, pounds, kilogrammes, decagrammes, and grammes.
- (e) Measures of capacity such as a pint pot.
- (f) Squared paper or tracing cloth.

<sup>5</sup> Plain paper also, owing to its cheapness and easy divisibility, will be found to be of very great value for illustrations.

With this simple apparatus the scholar should be taught to <sup>6</sup> perform the actual operations of shopping that involve the use of

money and weights and measures, to measure in inches and centimetres the various objects in the school, and to estimate lengths and weights.

<sup>1</sup> There is much to be said for allowing a considerable interval of time to elapse between such experimental practice and the introduction of more formal numerical applications and rules.

Too much care cannot be bestowed by the teacher on the proper use of the technical terms of arithmetic, and the employment of these before the children are habituated to the processes which they indicate is to be deprecated. Thus many weeks may be spent by the scholar in discovering the various relations of small numbers by means of cubes, etc., before he is required to distinguish addition from subtraction. The teaching of multiplication and division can, if it is desired, be developed from the practice of children in measurement by a standard unit, and in changing the unit. This work can continue for many months before the technical terms <sup>2</sup> are introduced. The scholar will thus be led to form a general conception of the processes technically called "multiplication" and "division." It is highly important that he should be able to distinguish "measurement" from "sharing," two very different ideas, though both technically expressed by division. Care should also be taken to guard against such common errors as the supposition that length can be "multiplied by" breadth. Errors of this kind indicate a confusion of ideas which not uncommonly arises if attention is concentrated on the numerical results of processes, as distinct from the logical operations involved in the processes themselves.

<sup>3</sup> Great care both in the work of the teacher and in that of the scholars should be attached to logical completeness. For example, in the reduction of compound fractions the successive steps should deal with the whole fraction; in working questions in which a concrete quantity is required as the answer, the whole work should show that concrete quantities and not mere numbers are being dealt with.

<sup>4</sup> Certain elementary "rules" must be taught in all schools. These should include simple sums involving money and the common weights and measures, vulgar fractions, decimals, and proportion by the method of unity.\*

<sup>5</sup> Where many children are presented for labour certificates the course in the later stages will be largely determined by Schedule VI. In other cases, special attention should be paid to the needs of secondary schools, technical classes, and local industries.

<sup>6</sup> In all cases an endeavour should be made to frame schemes of arithmetic teaching with some reference to the circumstances of the school; and the course of arithmetic should include the drawing of lines and plans, practical measurements, and the construction of such things as cubic centimetres, if the scheme of hand and eye training taken in the school permits of this being done. In this manner this subject will be correlated with drawing, elementary physics and the scheme of hand and eye training. It will also be possible to connect

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\* This method does not necessitate the written expression of intermediate steps.

the sums with the subject-matter of other lessons. Thus to be effective interest sums should be preceded by simple lessons on savings banks, relative safety of various investments, and usurer's interest. Such sums should be limited strictly to simple numbers.

For older scholars exercises in land measuring are valuable; and the occasional actual measurement of a field, or of the playground if no field is available, will be a useful supplement to indoor instruction. Even in the school it is possible to find suitable practical exercises in the measurement of bulks, weights and areas of common school-room objects.

For both older and younger girls problems relating to domestic economy and thrift are especially useful, and in country schools the sums should frequently have reference to the produce of the farm and the field. It is also desirable that as far as possible the current market price of the commodities named should be used in the questions.

The commercial applications of arithmetic commonly found in textbooks could generally be advantageously replaced by algebra, practical geometry and the mensuration of the simpler solids and surfaces. The division of arithmetic and algebra into distinct subjects is much to be deprecated. Much will be gained by the very early substitution of letters for numbers in some of the ordinary arithmetic and by the early introduction of the ideas of negative quantities and simple equations.

The arrangement of the instruction so as to provide adequate practice in old rules is of special importance in teaching arithmetic. There is a decided advantage in dividing the year into two or three periods, in each of which there is a considerable amount of past work as well as the introduction of some new work.

Practice should thus be of five kinds:—

- (1) Preparatory experimental exercises to show the necessity and meaning of what is coming.
- (2) Numerical exercises in the rules and processes that are being taught, dealing with very small quantities.
- (3) Exercises combining these rules with others, and also containing larger numbers.
- (4) Recapitulation, including oral (or, where possible, written) answers to questions on previous work. These should be given with as little technical nomenclature as possible, and without ciphering abbreviations—*i.e.* each figure should have its full value assigned to it.
- (5) Exercises in pure ciphering, to cultivate speed, accuracy and the habit of concentration.

It is not, however, necessary that large quantities should be involved. Accuracy is not obtained by working long sums, but is rather the result of mental concentration and experience.\*

If this plan be adopted, and if the order in which the new work is taken be properly chosen, the difficulties which arise when a class

\* The necessity of keeping children employed has been in the past an excuse for the use of large numbers in small schools where a teacher has charge of several classes. It is hoped that a recognition of the resulting evil will lead to its being diminished.

has to spend a whole year on a separate compartment of the complete arithmetic programme of the school will be avoided. The scholars who show greater aptitude can be more readily put in a class suitable for their progress, and need not be retained in a class for some time after mastering that which their fellows are still endeavouring to understand. Such organisation will be novel to teachers who have been accustomed to adopt the schemes set forth in the Code.

The latter are only retained for the purposes of proficiency examinations. While it would be wrong to adopt any scheme that has the effect of depriving children of their legal opportunities of leaving school, there is no valid reason for rigidly adhering to Scheme A or B in all classes. Such a course is indeed harmful, for it leads to the children being confined to a very limited variety of sums for long periods of time. It is preferable to draw up a scheme that will at once enable the children to pass the proficiency examination according to the local by-laws, and will also conform to the principles of teaching set forth in this chapter. The three schemes added in Appendix I. are thus in no way alternatives to those published in Schedule VI. of the Code, but are rather published to stimulate teachers to draw up their own schemes suitable to the local needs and to the abilities of the school staff.

In Scheme No. 1 addition and subtraction are applied to compound rules (money) before multiplication and division are taught. It is arranged for a school consisting of five classes, and it is supposed that a child of ordinary ability will spend five years in the four lowest classes, and that consequently four-fifths of the children will be promoted every year. It is hoped that this scheme will demonstrate that the division of arithmetic into seven standards or divisions is not necessary. In Scheme No. 2 all the four simple rules are taught to begin with. Scheme No. 3 is based upon number treated as a means of measurement. In the first place measurement in whole numbers is dealt with. When the children are sufficiently advanced to see that this is insufficient, vulgar fractions are introduced as a further extension, and so as to furnish a means of measuring the portion that cannot be represented by a whole number of units. Fractions will then be found to be insufficient, and, as a consequence, decimals are introduced. In this way whole numbers, fractions, and decimals form successive advances to a perfect system of measurement.

With the adoption of any similar scheme, it is believed that a partial re-classification two or three times a year will not be found to necessitate any special teaching of individuals. The variation in the numbers commonly found in the top class at the beginning and end of the year serves to prove that such reclassification would improve the organisation.

It should be added that the books of examples necessitated by the conditions found in elementary schools should be adaptable to all such schemes if classified in accordance with the different objects of practice specified on page 45.

## CHAPTER VI.

## OBSERVATION LESSONS AND NATURE STUDY.

The varied occupations of the Infants' School will develop in some degree the senses of sight and touch, and the singing and musical games will assist in developing the sense of hearing. The child will thus be equipped with the means of acquiring for himself 1 accurate impressions by means of the organs of sense, and the aim of the study of common things during the rest of the school life is to train the scholars to observe accurately and to reason carefully. Incidentally the scholars will acquire a useful knowledge of the surroundings in which their lives will be spent.

In the lower classes teaching about common things will be directed mainly to cultivating exact observation. Lessons with this special intention are most accurately described as observation 2 lessons, but are more commonly called object lessons. In the higher classes the power of exact observation is presupposed, and the main purpose of the lessons is to exercise the scholars in reflecting and reasoning upon the results of their own direct observations. Lessons of this kind are now commonly described as nature study.

It is very desirable that the observation lesson should not be made the vehicle for giving information which the object itself does not give, for in that case its special educational purpose is apt to be overlooked. But when real observation lessons have been given, the 3 teacher can profitably use the reading lesson or the oral composition or conversation lesson for that further information which cannot be learnt at first hand from the thing itself. Thus, when a dog has been used as the subject of an observation lesson, the children may read, or be told, about the wolf or the fox. This will lead them to compare and contrast, and will aid in stimulating imagination.

Again, in the lessons on geography there will be occasion, and indeed necessity, for acquiring information about common things which cannot be acquired directly from the object. Thus cotton, flax, and wool will be compared by direct observation; their source and production belong to geography. The power of steam is a 4 proper subject for observation; the railway is a geographical subject. The properties of water should be observed; the collection of water in streams and reservoirs must be studied geographically. In such descriptive or information lessons all possible use should be made of pictures, models, and vivid descriptions; in observation lessons, the thing itself being available, images and descriptions are out of place.

1 Code, Article 2 (5). "Observation Lessons and Nature Study, which should be taught, with special reference to the surroundings of the scholars, and to the natural features, industries, and plant life of the locality, with the view of forming the habit of intelligent and accurate observation. In schools in or near the country Nature Study may be connected with the teaching of gardening to the older boys, if adequate equipment and efficient teachers are available." (Page 16, N.U.T. Code.)

1 It should be carefully noted that the object of Observation Lessons is not the acquisition of knowledge of the physical features—the plant and animal life of the district—but the cultivation of the power to observe rapidly and accurately. Knowledge of the district will, no doubt, be gained, but it will be as an incident of the lessons, and not as the accomplishment of their aim.

1 *Nature Study*.—See pages 5, 1; 18, 1; 50; 105.

1 *Observation Lessons*.—See pages 48; 105.

(1) *Observation Lessons.*

In an observation lesson all data given by observation of an object are of like significance, whereas in a lesson in elementary science some particular aspect or activity of an object will claim attention, while others will be of no significance for the purpose of the lesson. Observation lessons should therefore be carefully distinguished from instruction in elementary science. But although the generalisation from facts and the search for natural laws belong to a later stage of mental discipline instruction with these aims can only be given if the power of intelligent and accurate observation has been first developed.

The first and most important aim of observation lessons is then to teach the scholars to observe, compare and contrast; the second is to add to their knowledge of common things; and these ends will be more securely attained if the results of the direct observation of the scholars are made the basis for instruction in language, number, drawing, modelling or other handwork. It follows from the recognition of these principles that the admission of technicalities, whether in method of study or in language or terminology, will merely obscure the chief aim of such instruction.

But good object teaching has other results which, though indirect, are as important as these. It opens up a readily accessible field for the exercise of brain, hand, and eye, and thus makes the lives of the children more happy and interesting; it directs the attention of the scholars to real things, makes them acquainted with simple natural facts, and will develop a love of nature. Education in which the training of observation plays a considerable part will not be open to the objection of being exclusively bookish, and by insisting on the use of the scholar's own senses as a pathway to knowledge will lay the foundation for a right direction of his activity and intelligence during his school life and afterwards.

Not only for practical reasons, but also to enhance the educational benefit of this kind of teaching, the objects chosen ought in the main to be those with which the scholars are familiar. For country children and for town children the subjects suitable for observation lessons will in general not be the same. Children should be encouraged to bring with them to the lesson illustrative specimens collected by themselves or borrowed from friends, and the more familiar the objects the more the child's out-of-school activities can be encouraged in the desired direction.

Habits of observation are better cultivated by the thorough examination of a few objects rather than by a less careful examination of many. On the other hand, the same lesson should never be given twice, because facts which have been discovered by the children are likely to be remembered, and for that reason are not likely to be re-observed. If a second lesson is given on the same object new facts should be looked for.

The teacher should, by questioning the scholars, lead them first to

<sup>2</sup> On page 70 will be found the suggestion that Memory Drawing should be practised by drawing objects studied during the ordinary lessons. This suggestion is probably best fulfilled during the Observation Lessons.

analyse the several impressions which go to make up their total impression of the object, and then to bring out the relation of each to the whole. These separate aspects of the object should afterwards be reconstructed to restore the unity of the impression of the object as a whole.

Side by side with the training in accurate observation there should be training in accurate description, and scholars should habitually be required to state their observations in continuous narration in their own language. This practice will lead to correct use of the English

- 1 language both in talking and in writing, and will add considerably to the child's vocabulary; stress has been placed upon this part of the teaching of the mother tongue in Chapter IV. Scholars who are old enough should be required to write brief weekly compositions expressing in a written form the ideas they have acquired through oral instruction.

Simple drawings, models, &c., should be made by the children to illustrate their observations, and in some cases simple records of the observations made by the scholars may be kept on squared paper. These will serve not merely to test the accuracy of the observation

- 2 made by the scholars, but will in addition tend to fix the impressions in their minds. The teachers should themselves frequently illustrate details of the lessons by blackboard sketches, but it is essential that the teacher's work on the blackboard should follow and not anticipate the observation of the children.

In connection with observation lessons, visits to museums and other places of educational interest may be made with good results. Class excursions in or out of school hours will enable teachers to

- 3 obtain suitable objects for the lessons, and will also encourage the study of plants and animals in their usual surroundings as living things. With younger scholars or infants these excursions need not be planned in order to secure definite analytic attention to any one

1 *Oral Composition.*—See also pages 34 ; 35.

2 *Visits to Museums.*—Code, Article 44 (b). "In making up the minimum time under Article 43 (b) which is required in order that an attendance may be reckoned for grant, there may be included any time occupied, with the sanction of the Inspector and under arrangements approved by him, by school journeys or visits paid during the school hours to places of educational value or interest, provided in each case that the time devoted to teaching is not less than one hour and a half." (See N.U.T. Code, page 37.)

Note that there is now no limitation to the number of these visits.

3 In connection with these Observation Lessons given off the school premises, a practical difficulty will occur to every teacher, a difficulty which will also be experienced, though to a less degree, in connection with the visits to museums. It is obviously desirable that the Observation Lessons should be continued throughout the school year, and arrangements will be made on the Time Table for the conduct of a systematised course. But these lessons must necessarily be abandoned in wet weather, and it may not always be possible to take some other object upon which a lesson may be satisfactorily given on the school premises. This difficulty will be accentuated during the winter months. It will probably, therefore, be desirable to place on the Time Table some alternative lesson, which may be taken when climatic conditions compel the teacher to abandon the lesson which he proposed to give out of doors. The best method of meeting this difficulty may well form a subject for conference with the Inspector when the course of instruction for the year is to be determined, and the Time Table is about to be prepared.

On page 67 reference is made to the educational advantages associated with the judicious use of the magic lantern as a method of illustrating the subject matter of many lessons. Use of the lantern during the summer months is generally impracticable, but many experienced teachers declare that it offers to the children a great source of attraction during winter afternoons, and this alternation between the outdoor lesson in the summer months and the lantern illustrations during the winter months may furnish a solution to the difficulty referred to above. While Observation Lessons would not be altogether abandoned during the winter; they might well be restricted in number and the time devoted to pictorial illustration, particularly in Geography and History.

object, but they should be permitted freely to receive impressions, and the expression of these on returning to school should not be forced into any one mould.

(2) *Nature Study.*

The term "Nature Study" is here used in default of a better one for that class of elementary instruction which deals with the out-door world, with the life of animals and plants, with the clouds and the seasons, the rocks and the soil, in fact with any side of the changing panorama we call Nature.

As a subject it includes something more than Natural History proper, because in addition to observation it demands some touch of the method of scientific enquiry; on the other hand, it cannot be confined within the limits of a particular "Science," for it may deal with many branches of science and with their applications to such crafts as agriculture or gardening.

For the country school it should satisfy that requirement of the Code which speaks of the application of the habit of intelligent and accurate observation in the daily life and surroundings of the scholars; for the town school it affords a means of opening the eyes of the children to a world which they have but little opportunity of learning instinctively.

With a subject so wide and undefined it is evident that the teacher should have a very clear idea of the object of his teaching; in this more than in any other branch of the school curriculum the method by which the instruction is given counts for everything, the information imparted for very little. The one object that must always be kept in view is the training of the child's mind, first to observation on its own account, secondly to such a perception of cause and effect in nature as may lead the child in after life to reason about things instead of taking them for granted. The main factor which marks off "Nature Study" from other school subjects should be that in it the instruction proceeds solely from the actual object, and never from description or reading. In practically every other subject, no matter how successfully the teacher makes the scholar look for the information he requires, the child has to take things for granted, and must depend on the good faith of the teacher or of the printed book; in Nature Study comes the opportunity of proceeding by another method and teaching from the thing itself. The teacher should then be very jealous not to waste this unique opportunity, it is his one chance of teaching from the real; as soon as Nature Study is taught from the book and the blackboard it becomes worthless as Nature Study, even though interesting or useful information is imparted to the scholars.

<sup>3</sup> Article 2 (5) is the one referred to. See page 16, N.U.T. Code.

<sup>4</sup> See footnote, page 47 respecting the object of Observation Lessons.

<sup>4</sup> Many Nature Study Lessons may, however, well be supplemented by pictorial illustration. Such illustration would not in itself be Nature Study, but would often closely connect those lessons with lessons in Geography.

<sup>4</sup> See notes on Oral Composition, pages 34 and 35.

Stress is frequently laid by educational authorities on the desirability of requiring the children to give their answers in complete sentences. If, for example, the teacher with a plant before him puts the question, "What is the shape of the leaves?" and insists on a reply such as "The leaves are oval in shape" instead of merely "oval," a marked improvement will soon be noticed in the written composition.

Turning again to the object of the teaching, it should be understood that observation means something more than merely seeing a thing, it should involve description, and this again often means measurement and a continuous record of the measurements. No opportunity should be lost of measuring or weighing, especially in dealing with living things that are undergoing regular change. This fosters the one habit of mind we are seeking, that of exact seeing; for the other—clear thinking—we must make use of experiment. An experiment is a question asked of nature, a particular cause is seen to be followed by a certain effect; we want the child to get into the way of thinking that all effects have their causes which can be discovered if the questions are properly asked. Again, experiments afford the best material for the exercise of the observation, since in the first place the arrangement of the experiment has to be grasped, then the experiment itself has to be watched.

Nature Study proper should begin at about the tenth year, and should be a development on more systematic lines of the observation lessons given in the earlier stages. The class may be large, in a small country school the whole of the upper girls and boys can be taken together, and it is very easy to make such slight changes in the subject from year to year, as will avoid the appearance of repetition.

The choice of subject-matter is of the widest, and should be determined to some extent by the locality, and by the personal tastes of the teacher. In a fishing village the seashore might afford the materials, in a mining district the rocks. Teachers who keep bees could take the habits and life history of bees as the subject of their lessons; others could utilise their poultry for purposes of instruction. A preference should be given to living things, and on the whole the life of the plant is the most generally useful subject, partly because the lessons are so widely applicable to the every-day life of the country, and partly because it lends itself so readily to simple experiments.

<sup>2</sup> Natural history itself, the study of the habits of birds or insects or plants, is apt to be too unsystematic, too little under control, and lies too much out of school to make a good subject. It soon degenerates into reading about things instead of seeing them, or still better, doing them. And system is essential, one lesson must lead up to the next, the later lessons should be constantly requiring some of the earlier lessons for their explanation, otherwise the deductive element is lost. The essential things are two: to secure abundant personal first-hand experience for the children, and to give them many experiments; the teacher should choose his subject and build up his course to secure these fundamentals. At the same time the course of instruction must be somewhat informal. The teacher should have a general scheme planned out; but since it is his best policy to

<sup>2</sup> Many successful teachers declare that Nature Study Lessons become doubly attractive when the children have been made acquainted with the use of the microscope. If, for example, some of the more easily observed structures of a plant are prepared before a class and then shown under a good microscope, the surprise is so great and the interest aroused so considerable, that the pupils will endeavour to follow up this line of research for themselves, while the exercise in Composition and Drawing which will naturally follow the examination of a microscopic slide is one which the children generally take to with considerable zest.

let the course appear to grow out of the subject studied, and since living things have their surprises and do not always work to time, it is not always possible to follow a set syllabus in a given period.

Great care is requisite before taking up any subject definitely technical—such as agriculture; before choosing this subject the teacher should ask himself what chances he will have of bringing in the element of reality, how much he will have to depend on description and second-hand information, both for himself and still more for his class. It is somewhat ridiculous also to teach agriculture in the school when for the few boys to whom it will be useful the farm itself is waiting.

As the choice of subject is so wide, and as the spirit of the teaching is everything, the subject should represent the individuality of the teacher. If he has not already developed a special interest in some branch of nature knowledge which he can bring into service in the school, let him take up part of a general syllabus, like the "Elementary Rural Science" (see Syllabuses and Lists of Apparatus, Board of Education), and work on those lines until he finds some section of it, some by-path that encourages him to further study. It is only when a man has made a subject his own that he teaches vividly and with authority. In all cases, however, the teacher should beware of making his subject too extensive; if his scholars are to gain personal acquaintance with what is being taught they cannot cover much ground. All printed syllabuses should be taken as showing the range of the subject, not as examples of what must be done in a year.

The class work is best conducted on catechetical lines, with continuous cross-questioning to ensure full and exact answers and to get behind mere verbal explanations. The teacher should be very chary of giving information; he should always try to extract it from the thing itself by asking questions. His aim should be to keep his children's minds active and guide the inquiry. Note-taking is of doubtful advantage, because scholars of the age of ten to fourteen will not have mastered the art of taking notes; and notes dictated by the teacher or copied from the blackboard do not represent any independent effort on the part of the scholars. The teacher may suggest a series of headings, leaving each pupil to fill in the notes. Notes should be in the form of sketches whenever possible, and if written should be brief. A sketch with a few written labels and recorded measurements forms an excellent summary of a lesson, and on it the scholar may be catechised later. Care, however, must be taken not to overdo the drawing so as to make Nature Study a lesson in pencil or brush work; rapid and intelligible diagrams only are wanted. The results of the lessons should be used for exercises in description and short compositions; observation is complete only when it can be reproduced in words. Compositions, again, afford the necessary means of testing the progress of each member of the class, a thing which is easily overlooked when teaching catechetically.

<sup>2\*</sup> This is a note which might well precede any Syllabus drawn up by the teacher for presentation to the Inspector at the beginning of the year.

<sup>2</sup> Elementary Rural Science.—For the Syllabus here referred to, see page 153.

<sup>3</sup> See footnote, page 50, respecting the form of answer required.

Many simple experiments, especially with plants, can be repeated by every member of the class, but, as a rule, the elementary school has not the room, staff, and equipment to provide such personal experience for all the scholars. But the teacher should make the larger experiments co-operative, the older children should help to get it ready beforehand if need be, and each scholar should make some measurements and help to keep the records. Measurements can be made in turn by the scholars, and all can use them ; measurement would, therefore, be a valuable help to the teacher even if the exercise were not in itself a most valuable one for children.

- 1 Previous preparation on the part of the teacher is necessary if experiments are to be successful. Often the material that he wants is not readily available, but year by year as he develops his course he will get round him the things that are necessary. Some he will have ready growing in his own or the school garden, others he will collect as he comes across them, and others he will put aside at the appropriate season, *e.g.*, if he is going to use some acorns in the Spring, he will lay up a little store in October. The value of the instruction will depend so largely on the way that every statement is checked by experiment that the teacher should not spare himself the trouble which is at first necessary for arranging successful experiments.

- 2 Lastly, the teacher should not use technical terms, he should not say "cotyledon" when "seed leaf" will serve. Again, he should not aim at a text-book completeness in the treatment of any subject, he should omit freely anything which cannot be taught at first hand from the thing itself. No regard for formal completeness or possible examinations should obscure the cardinal principle of dealing only with reality.

- 3 Certain auxiliaries in Nature Study teaching merit a little examination. A number of reading books on natural history and country life have been prepared, but they should be very sparingly used. Reading about birds and insects and the like may kindle observation, but too often becomes a substitute for it. Natural history reading books, again, have an unhappy way of repeating well worn errors and slipshod half-truths. If a Nature Study reading book be wanted an endeavour should be made to secure one containing descriptions by original observers and not mere accounts put together by a compiler.

- 4 Without doubt the collecting instinct is the great motive power in natural history pursuits, and most naturalists begin as collectors. If collecting is repressed, interest is apt to be repressed also. But the habit of collecting may become a habit of destruction, and therefore the teacher should make the Nature Study class his opportunity for developing a respect for living things, for birds' nests and rare plants. Children should pluck flowers carefully, so as not to injure the plant ; boys should be content with a single egg of each kind. A natural history calendar and a record on the schoolroom wall are useful : the former should be renewed each year and give the name and date of the first child to observe each of the commoner flowers or birds or insects. The second should give the name of the first observer

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<sup>4</sup> If the next school walk can be taken to the place where the flower has been discovered, the consequent advantages are obvious.

of every rare plant, bird, or insect inside the parish. For teaching country children the art of classification and discrimination between species, it is a good plan to encourage each to make a dried and mounted collection of the local grasses, naming them from a similar collection on the school walls.

<sup>1</sup> The school museum requires careful handling: a glass case is wanted for the storage and display of examples that are needed for the lessons of another year, such as specimens of wood to show growth rings, heart and sap wood, the formation of knots, etc. But a mere repository of things which the children have found, still more of "curiosities," only cumbers the school. The school museum should have one definite object, and be in the hands of an enthusiast, or not exist as such at all.

School walks and excursions are now a legitimate part of the Time Table, but to be educationally fruitful at this stage they require careful planning and preparation. With younger scholars the school excursion need not be confined to any definite purpose, but with older scholars the class should go out with some object in view, with two or three points to observe. An excursion may be planned, for example, to see how the kinds of plants change as one passes from clay to sand, the kinds of weeds that are associated with the different crops or soils, or how plants change their character, according as they grow in damp or dry situations. Much incidental matter for observation will crop up by the way, but the walk should be undertaken with a purpose, or very little will be seen by anyone. The same rule applies to school visits to museums; the class should go to look up some point which has been prepared beforehand in school, not to stare aimlessly at the bewildering mass of objects displayed.

<sup>2</sup> Nature Study in a town school presents more difficulties if it is to represent the personal experience of the scholars. It is not possible to replace the wealth of material round a country child, but descriptions and reading must not take the place of first-hand observation by the scholars. Experiments on the growth of a plant are just as possible, though not always so easy. In the schools of a large town, no matter how remote from the country, all our common food plants should be grown, *e.g.* wheat, oats, barley, turnips, potatoes, clover, peas, and beans, etc., etc. The smallest plot of ground, even pots, will suffice, and many lessons can be drawn as the growth proceeds.

<sup>3</sup> The collecting instinct is perhaps most easily developed in smaller towns within touch of the country; the teacher can encourage his boys to spend their holidays to advantage in this way, provided he checks the growth of predatory and destructive habits.

<sup>4</sup> Whatever the subject selected, if Nature Study is to have its full value in the school, it must be in virtue of the spirit in which the teacher goes to work; he must continually ask himself whether his teaching proceeds from the thing, whether it is designed to encourage observation and thinking in his children, to make their minds active

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<sup>1</sup> But those who have seen pupils remaining in school after school hours at their own request to examine the objects and read the description attached to the "curiosities" in the school museum will doubt the accuracy of this assertion.

and not merely receptive, whether it is experimental enough, whether it is first hand.

(3) *Elementary Physical Science.*

Physical—as distinct from biological—teaching should be restricted to the investigation of the simplest phenomena, as far as possible by the children themselves. Materials and appliances should be of the simplest pattern, but should be used with the utmost care and thoroughness.<sup>1</sup> A few experiments, well chosen and completely executed, will promote accuracy of expression and clearness of inference more certainly than a fuller series insufficiently carried out.

Measurements of length, area, volume, and mass, the weighing of different solids in air and in water, leading to the idea of density and specific gravity, the use of the spring and lever balance, the study of heat through the properties of ice, water, and steam, simple notions of the propagation and composition of light, the simple chemistry of air, water, chalk, or burning and rusting—these will afford ample field for the selection of a suitable course of lessons.

Many schools have initiated successful meteorological observations on diurnal variations in temperature, pressure, and dew point, and such training has been found of great service in after life.

The children should handle all materials and apparatus which come under review, and should be encouraged to express themselves clearly both in speech and in writing upon everything they have witnessed and inferred. The duty of the teacher should be to select and devise the experiment, to ensure that all observations are completed, that they are accurately reported, and that they are correctly employed in the inferences drawn by the scholars.

<sup>1</sup> Indeed for school purposes simple home-made apparatus has one great advantage over that which is more costly and not home made, for children will often copy simple apparatus for themselves and repeat and even extend the scope of the experiments at home. Such repetition eliminates chance and fixes the truth of natural law.

<sup>1</sup> *Elementary Physical Science.*—See also pages 5, 1, and 105,

## CHAPTER VII.

## THE TEACHING OF GEOGRAPHY.

1 Geography is concerned with the earth's surface, the condition of its various parts, their relations to one another, and the influence of those conditions and relations on plant life, on animal life, and specially on human life.

The teacher who wishes to base his instruction on matters which lie within the range of the children's observation will need to begin with 2 the simplest and most significant facts ; and to generalise from these so as to impress upon the scholar's mind the main principles which need to be established. Such teaching will be a valuable mental discipline.

3 But the imagination of the scholar must also be called into play in order that he may form mental pictures of things which are wholly outside the range of his own observation, and geography well taught on these principles is full of natural attraction to children. The process of discovery which has revealed to us nearly the entire surface of the globe, the varying conditions of climate, the distribution of races and nationalities, the products, organic and inorganic, of land and sea—these stimulate the curiosity, retain the attention, enlarge the mental horizon of the child.

4 The intimate connection of geography with other studies should never be forgotten by the teacher. In so far as it is concerned with local conditions it touches upon the study of common things ; the size of countries and the distances from place to place bring the child into contact with arithmetic ; while it is impossible to study the history of any race or nation, however isolated, without reference to the configuration of the country, the conditions of soil and climate, and the contiguity or remoteness of other peoples.

In order that the study of geography may be of real educational value it must not be regarded as a process by which certain facts about the earth or the portion of it upon which we live are committed to memory. It must be rather regarded as the subject which above all others brings the youngest child as well as the most advanced student into contact with the outside world—the world of nature as distinct from the world of books. It is true that as we advance in the study 5 of geography we have to rely, to a great extent, upon the investigations of others, but in order that they may understand these investigations we must from the very first teach children to work for themselves and to take nothing for granted. And this is not difficult, for wherever our home is there lie all the materials which we need for the study of the whole globe ; the earth indeed has been compared to a great library where no manuscripts have perished, but all exist as legible and as accessible as ever.

1 Code, Article 2 (6) states : " Geography, based upon elementary notions acquired through Observation Lessons, Nature Study, and Descriptive Lessons, and leading to a general knowledge of the Earth and its peoples, and a more detailed knowledge of the British Isles and the British Dominions beyond the Seas. Where possible the Geography of the chief foreign countries should also be taught in some detail. The scholars should learn to use good maps, to make their own simple sketch maps, and in the higher classes to draw maps to scale." (Page 17, N.U.T. Code.)

1 Geography.—See also pages 5, 1, and 113 to 120.

It has sometimes been the case that mathematical, physical, and political geography have been treated as separate subjects, whereas they should be regarded as most closely connected.

In the earliest lessons this connection should never be forgotten, and as scholars grow older they will by this means be trained, when they learn new facts, always to be inquiring for the reason of these facts.

And not only should the different branches of geography be looked upon as interdependent, but geography as a whole should be closely associated with other subjects of study.

Observation lessons and Nature Study are most effective when they relate to the local surroundings of the scholars, which must constantly be appealed to for illustrations of the elementary notions of physical geography; drawing should at first be used as a means of teaching children to express what they observe about their own part of the world, and later of helping them to delineate by means of maps what they have learnt about more distant regions; and there is no better form of hand and eye training than the modelling of the actual features of a district known to the scholars, and at a later stage the making of contours and reliefs. The teaching of history can be connected with the teaching of geography in more than one way. The more formal teaching of history in the upper classes will require constant reference to the map, and it may be possible to take the detailed history and geography of the same region concurrently and to some extent in connection. But the influence of geographical conditions in history is more clearly evident in the great movements of world history, and the teaching of geography may properly include some rapid surveys of the general march of civilisation westwards from the most ancient times, of the great migrations of races, and of the rise of modern nations. Again, in teaching the mother tongue, oral and written composition exercises should be frequently given on what has been learnt in the geography lessons, and the wall map or the atlas should always be at hand when the scholars are reading aloud, or reading to themselves.

If the aim in teaching geography is in the first instance to make children observe for themselves it is clear that outdoor lessons should form a very important part of the instruction. In our own country, school walks and school excursions (which are so common in German, Swiss, and American schools) have recently been much used in accordance with Article 44 (b) of the Code, and it has been found that these field excursions of two or three hours have been most valuable as supplementing the teaching of geography in the class room.

<sup>4</sup> Composition, see also pages 26, 2 ; 34; 35 and 49, 1.

<sup>5</sup> Article 44 (b).—"In making up the minimum time under Article 43 (b), which is required in order that an attendance may be reckoned for grant, there may be included any time occupied, with the sanction of the Inspector and under arrangements approved by him, by school journeys or visits paid during the school hours to places of educational value or interest, provided in each case that the time devoted to teaching is not less than one hour and a half." (Page 37, N.U.T. Code.)

<sup>5</sup> The top of the nearest hill or the church tower will often form the best class-room for the teaching of Geography.

<sup>5</sup> The School Journey.—See also page 49, 3.

*Children under Seven.*

At this stage nothing in the way of formal geographical teaching should be attempted, but in various ways the ground may be broken for future instruction. The children should be encouraged to ask questions about all that they see about them, and stories should be told them of the wonderful world in which they live. They will listen 1 eagerly to the myths of the ancient Greeks, to stories of the goddess of the dawn driving in her chariot to herald the opening day, or of the Grey Sisters in the frozen North who turned into icebergs. Tales about the old Vikings or Argonauts of legend will prepare them for the real voyages of explorers like Columbus and Nansen.

Stories again in a geographical setting about Red Indians and their wigwams, Eskimos and their snow huts, Arabs and their desert home, will awaken their interest in foreign countries; and nature lessons 2 adapted to the different times of the year will form a prelude to teaching about the seasons and their characteristics.

In these and many other similar ways the skilful teacher of infants will begin her geographical lessons, looking forward to the time when the definite by a natural process grows out of the indefinite and coherence and system is given to what must be at the first fragmentary and unsystematic. At this early period she will be satisfied if she can, 3 even in a very small degree, stimulate the imagination of her class and make them eager to learn more. She will also be careful to make her children express what they have been told not only by conversation, but also by such kindergarten occupations as are adapted to the purpose.

*Younger Scholars.*

Geographical teaching properly so called should not begin until children leave the infants' school, but there should be no abrupt transition from the methods of the infants' school. Stories and 4 pictures of other peoples, their environments, manners and customs, should still be employed as vehicles of instruction.

From the very commencement of the period the teacher should determine what geographical knowledge the scholars can reasonably 5 be expected to possess at the end of four or five years, and adapt his methods accordingly.

It will probably be not too ambitious an aim if he looks forward to making his scholars acquainted in the first instance, and in a very general way, with the chief features of the great divisions of the world, and later and in more detail with the geography of Great Britain and 6 the British Seas, and of the countries of Europe that are opposite our shores. They should also by the end of the period know something about the atmosphere, and about the earth as a whole in relation to the other heavenly bodies.

The old plan of beginning to teach geography by making the scholars 7 learn the definitions by heart is acknowledged to be a mistake, for though young children may be taught to say by rote what such words

<sup>1</sup> Many experienced teachers declare that the life story of Columbus can be taught to children without the preliminary lessons here suggested, that young children are prone to treat a myth as an actual fact, and to subsequently destroy that belief causes them to regard every other statement with suspicion.

<sup>1</sup> *Geography for Infants.*—See also page 113.

as "isthmus" and "promontory" mean, the things themselves that are symbolised by the words are usually outside their experience, and so cannot be understood. The point for the teacher to remember in such matters is that it is desirable not so much to represent the thing for which a name is used, as to indicate the essential quality which gives it importance enough to deserve a name. Thus capes are the land marks by which ships are sailed along the coast, mountains are barriers; and so we mention the former when we are talking of ships and the sea, and the latter when we are studying the directions of road and the ways out of the local river basin into an adjoining one. These are the real elementary notions which must guide and govern the teaching; the nomenclature will be acquired incidentally as the leading ideas become prominent. For the purpose of illustrating the elementary notions and of correcting the ideas which are conveyed by descriptive or pictorial lessons it is necessary to study the home surroundings of the child whether that home be in the town or country; by home surrounding is meant not simply the topography of the district, but the district as the home of man and the scene of his activities, and as affected by such natural phenomena as wind and rain, cold and heat.

A large number of town schools are within reach of a public park, and such common things as a pond, a hillock, and a clump of trees will serve to define a scholar's ideas of what is meant by the lake, the mountain, the forest, of which he may have been told in descriptive or narrative lessons and which he will see by and by in the map. No

<sup>1</sup> better example can be given of a watershed than the roof of a house, and the slope of a town street after a rainy day affords an excellent illustration of one of the great forces of nature. The milkman's cart, the post office pillar-box, and the shop are familiar to all town children, and give material for lessons about man and his work.

<sup>2</sup> Teachers of country schools should pursue similar methods in dealing with the home surroundings of their children.

Both town and country children should be taught at an early age to notice the variation in the shadow cast by the sun from some well-known building at different times of the day, and in this way they will learn by actual observation the cardinal points. They will then <sup>3</sup> have a fixed standard by which to arrange objects in the school, the playground, and the immediate neighbourhood, and they will thus grow accustomed to think of remote places according as they are in the north, the south, the east, and the west.

The next step in purely physical geography may be to ascertain distance by actual measurements, and this should be done at first in a small area, and by a rough and ready method, such as stepping. It is also desirable to begin early with measurements by time, and to practise children by computing how long it takes them to walk a certain distance that they have already stepped.

<sup>5</sup> A further most important principle is acquired when the child is

<sup>3</sup> If in country districts the relative positions of prominent natural features are known sufficiently well to fix the points of the compass, the method of determining the hours of the day can be taught without difficulty.

<sup>4</sup> A pace stick, such as is used in the Army, is a much more satisfactory method of measuring distances.

trained to put down on paper what he has measured—here again a joint of a finger may be supposed to represent a step—and so the first introduction is made to drawing by scale.

It will now be time to prepare the children to understand a plan and a map, first a plan of the school and its surroundings, then a map of the district with which they are acquainted, and lastly a map of a region that is beyond their immediate experience.

Exact notions of a plan should be given gradually by requiring the children to draw plans of simple geometrical models and of common objects of simple forms. These exercises will lead up to the plan of the class room, of the school room, of the school and its immediate surroundings, and lastly, to a large scale plan of the school district. At this stage constant reference should be made to the cardinal points which should always be marked on the plans drawn by children and teacher. In this way they will be gradually led to understand the means by which the geographical study of distant regions becomes possible. The idea of a map can thus be developed as the scholars, by the study of the locality, come to realise the need for a record of the salient facts. In many schools, however, little outdoor study is practicable, and in such cases it is possible after a few lessons on the globe to introduce the idea of a map as a small portion of the surface of a very large globe.

In order that the scholars may better understand what information a map supplies, they may be shown a relief map or model made by the teacher, then a pictorial map or bird's-eye view, and then a map coloured orographically—all representing the same region. The children in their turn may usefully model and colour for themselves what has been placed before them by their teacher.

A high authority has argued with much force against the contention that “this careful gradation of difficulties and this presenting them one at a time are unnecessary.” He says that “clearness of apprehension and clearness of thought are gained in early years by this slow and methodical practice.”

Side by side with the progressive development of the fundamental ideas of physical geography the teaching should supply the scholars with interesting ideas about distant countries and their inhabitants. Lessons of this kind should be illustrated by pictures and photographs of people, scenery and buildings.

The systematic study of our own country should now begin. It has long been recognised that a bare enumeration of unconnected facts, such as a list of capes and bays, and the names of mountains with their exact heights, is of no educational value. As a preliminary step, Great Britain should be divided into its natural regions as determined by the relief of the land, and each region should be treated separately. The influence of the physical features of a region upon the occupation of its inhabitants will then be seen, and incidentally much light will be thrown upon the history of our country. Before, however, the map of a large natural region like the Welsh uplands can be profitably studied, a small area, if possible containing similar features in miniature, should be visited and carefully drawn by the

<sup>2</sup> *Maps.*—See also page 113, s.

children—otherwise a relief map or an orographical map will lose half its value. The seas surrounding our shores should be regarded not only as dividing us from other countries, but in another aspect as uniting us to them.

*Older Scholars.*

At this stage again the teacher of geography should clearly define his aim; he must consider how best to strengthen the knowledge that the scholars already possess, and what additions to make to that knowledge. He must accordingly set before himself the geographical equipment that boys and girls should have before they leave school and go out into the world. His greatest difficulty probably will be to determine what to omit, and in making a selection from the rich variety of material comprised in geography he must be guided by the relative importance of the different parts of the world to a native of Great Britain.

In framing a syllabus for the highest class, teachers should have the greatest liberty, and much will depend upon the character of the school, whether it is in the town or country, and whether the scholars usually stay at school till they are fifteen, or leave for work at the earliest possible age.

It will probably be found that the best general subject for the last years of school life is the British Empire in some detail, and other parts of the world that are especially connected with our own country. In this stage of the teaching the general conceptions of the bearing of geography on history, which will have been touched on in the earlier teaching may be more systematically developed. For example, the relative importance of seas and mountains in keeping men apart, and their relative importance as political boundaries; the influence of climate, soil, and extent of seaboard in determining national occupations and national characteristics; the study of communications—artificial, such as roads, railways, and canals, and natural, such as seas and rivers—leading up to a knowledge of the great trade routes of past and present times, and to reasons for the growth and decay of certain of them; the causes of the growth and decay of towns: all these will afford a wide field of ideas which can be introduced with advantage into the teaching of older scholars.

It is, however, most important that the study of Great Britain itself should not be laid on one side. As the scholars' minds are now more developed the teacher may dwell more fully upon such points as the general build of our country as affecting industrial development, the climate of different parts of Britain and its effect upon vegetation, the reason for the growth of certain towns and for the decay of others.

If this method be adopted the intelligent scholar will always have Great Britain as a standard of comparison in his mind when he learns about other parts of the Empire. He has been taught, for example, how the population of our own country has increased in districts where there is great mineral wealth, and will be able to apply the same train of reasoning to account for the growth of great cities in our colonies.

Throughout this stage the making of rough sketch maps by the scholars themselves should be a very frequent part of the teaching. Such maps should be looked upon as a form of rapid and suggestive note making, not as exercises in elaborate lettering or colouring.

- He will now become more expert in drawing maps to scale, and it will be wise to require that whenever a map is drawn of some foreign colony, an outline sketch of Great Britain on the same scale should be inserted in a corner of the map for the purpose of comparison of size.
- Diagrams on squared paper may be employed with advantage to illustrate striking statistics of trade and commerce. Graphic illustrations often afford immediate conviction of a point, which the most subtle mind would find it difficult to establish without such aid.

Sections of British seas should also be made to show such interesting facts as the shallowness of the Strait of Dover, and the depths of other parts of our seas as contrasted with the heights of our mountains.

- The importance of outdoor work at this stage cannot be overrated. Boys have now learnt in school some mensuration, and this knowledge should be applied in school walks and school excursions. They should be taught to make contours and to construct plans of the route that they have traversed, using the conventional signs of the ordnance map.

They will thus by making a map for themselves begin to learn how to read a map, and this is perhaps the final goal of early geographical teaching. In connection with this more advanced study of maps, attention may be drawn to the Ordnance Survey maps\* now supplied to schools at a very low price.

- In their outdoor lessons the scholars may also learn how to calculate the height of a building by an easy arithmetical process, or by taking observations at different hours of the day to obtain some rudimentary knowledge about angles. This will help them to understand what is meant by a degree, and the lines of latitude and longitude that they insert in their maps will have a fuller significance.

When by the study of various kinds of maps the scholars have learnt something of map reading, they should be able to form in their own minds fairly correct ideas of areas remote from their own experience, of which the maps are merely symbols. They will then be able to read with profit books of voyages and travels, using their atlases as a key to unlock most of what they otherwise could not have understood.

\* Applications for these should be made to *The Director General, Ordnance Survey, Southampton.*

- School wall maps are so much unlike the maps which are generally used in the ordinary work of life, that when an Ordnance Map is placed in the hands of a young man he is generally quite unable to use it. This can be overcome by putting into the hands of each child an Ordnance Map of the district covered by the wall map, e.g. the county in which the school is situated.

In many schools the maps of the district are carried by the children when out on the school journey, and whenever the path they are following changes direction, their attention is called to the map, and to any prominent natural features shown on it.

No teaching can be altogether adequate which is not nourished and vitalised by reading as well as by thinking. In many schools great advantage has followed the formation of a teacher's shelf in the school library, and there are periodicals which give information concerning recent and other books.

Outline schemes of geography teaching are given in Appendix III.

## CHAPTER VIII.

## THE TEACHING OF HISTORY.

In schools of every grade the teaching of history is beset with difficulties. Chief among these are the wide scope of the subject, the doubt in which many past events are involved, and the controversial aspect of not a few historical questions.

But in the elementary school the problem is complicated by the necessity of giving instruction that shall not be superficial, and yet be of such a simple character as to be interesting and intelligible to those who, from the necessity of circumstances, must leave school at an early age. Moreover, the great majority of teachers in elementary schools have had no opportunity for independent research, and perhaps 2 may not have had time or opportunity to read the works of historians who have drawn from original authorities, and consequently must be content to give information acquired from text-books of recognised value. It is important for the teacher as well as the learner to realise what are the sources of knowledge on any portions of history, even though he may have to accept information which comes to him a long way from the fountain head.

Yet, in spite of all these drawbacks, there are strong reasons why 3 an important place should be given to history in the curriculum of every school.

In the first place, all boys and girls in Great Britain have, by the mere fact of birth, certain rights and duties, which some day or other they will exercise, and it is the province of history to trace how these 4 rights and duties arise. It is true that in the elementary school such matters can only be lightly touched upon, but even so the scholars are not too young to be taught what a debt they owe to their fore-fathers who won the Great Charter of British liberties and sowed the seeds from which our modern Parliament has sprung.

Again, from the geography lessons the scholars know that Great Britain is only one country among many others. It is therefore important that from the history lessons they should learn something about their nationality which distinguishes them from the people of other countries. They cannot understand this, however, unless 5 they are taught how the British nation grew up, and how the mother country in her turn has founded daughter countries beyond the seas. The broad facts of this growth when properly handled ought to form a stirring theme full of interest to even young citizens of the British Empire.

<sup>3</sup> "The study of History contributes to the training of the intellectual faculties by exercising the memory, by cultivating the imagination to which the teaching of History supplies real objects, though varied and picturesque; by accustoming the mind to discern, appreciate, and judge facts, persons, ideas, periods, and countries, by placing intellectual facts, literature, and art in their proper surroundings, that is in their place in the political and social life of the time. The teaching of History contributes also to the training of the moral faculty, for it is a search after truth, it endeavours to demonstrate the truth and to declare it without reserve." (Lavisse.)

A further and most important reason for teaching history is that it is, to a certain extent, a record of the influence for good or for evil exercised by great personalities. No one would dispute that our scholars should have examples put before them, whether for imitation or the reverse, of the great men and women that have lived in the past. In the elementary school the difficulty for the teacher is how to make a selection from a canvas crowded with great figures, but certain names at any rate—and not all of these confined to our own country—should be familiar in the mouths of our scholars as household words.

In schools and elsewhere the teaching of history in the past has been too much confined to accounts of wars and battles, and narratives of the doings of great kings and nobles, and has not dealt sufficiently with the life of the people as a whole. Care should therefore be taken that the lessons deal with the triumphs of peace as well as those of war, and for this reason such events as the discovery of America, the invention of printing, the abolition of slavery and the change of life in recent times effected by scientific discoveries should have a prominent place in every well-considered historical scheme.

In constructing their schemes teachers must recognise the limitations imposed by circumstances, and remember that they are only dealing with children up to the age of fourteen. It is, therefore, impossible to include more than the salient features of our island story. As in the teaching of geography maps crowded with names should not be used, so in the teaching of history characters and events of less importance should be passed over, and teachers should endeavour to fix their pupils' attention only on the great deeds of great actors in the past. A teacher who has made a special study of history may properly include among the topics for his lessons suitable subjects from the history of other countries.

It remains for teachers who have decided (bearing in mind the circumstances of the particular school) on what events they wish to lay particular stress to consider how best they can focus each event and make it clear and intelligible, and further how they can best ensure that the impression may be permanent.

Wise teachers will exercise great discretion about giving dates to be learnt by heart at an early stage, for the abstract idea of time cannot be grasped by young children, and the mere repetition of dates is a barren exercise. At a later period, only the most important dates should be committed to memory, and these should be used as centres around which events approximately synchronous may be grouped.

In every stage of historical teaching pictorial illustrations are valuable, but adults are prone to think that a picture makes more

<sup>1</sup> *History.*—Few subjects cause the conscientious teacher greater anxiety. Napoleon marching at the head of a mighty army is in the eyes of some people a hero, but in the judgment of others he becomes a monster, putting into action a machine of death and destruction. Often a bare recital of facts (assuming one has the facts) may be misleading if these facts do not each receive their proper emphasis. This subject has been recently (August, 1905) debated at considerable length by French teachers of all grades, and with practical unanimity they have decided that teachers should as far as possible use scientific methods and avoid the introduction of that colouring which is often the result of personal prejudices.

<sup>2</sup> *History Schemes.*—Schemes A, B, and C, pages 124 and 66, 6.

impression upon a young child's mind than it actually does, and at first a rough sketch drawn by the teacher upon the blackboard and then copied by the class is more effective than the most elaborate picture. When the children grow older, portraits of eminent men and women, drawings of inanimate things of historical interest, and possibly pictorial representations of great scenes in history, may help to give reality to the teaching. At this stage, too, maps and plans will be of great service, and no opportunity should be lost of connecting the historical with the geographical lessons.

But, however useful illustrations may be, nothing appeals more to the imagination of an intelligent boy or girl than a visit, under skilful guidance, to the actual places associated with the great men and deeds of the past. In many parts of England such places are within reach of our schools, and it is hoped that advantage will be taken of Article 44 (b) of the Code which authorises these visits to be made.

It is desirable that some of the passages selected for recitation should have a bearing upon the history that any particular class is studying, and a similar use should be made of school songs. National anniversaries may also be made an occasion for reviving many inspiring memories of the past. Subjects for composition should be frequently taken from the history lessons in the case of older scholars.

#### *Younger Scholars.*

It has been well said that English History should be an inheritance of childhood; its characters and incidents should have the charm of a story which is not only interesting and true, but is also personal to the child, and should thus grow into his thoughts. History thus treated would not be a task, for the child would always be anxious to know more of it.

The illustrated story-telling of the infants' school will prepare the way for similar methods when history is taught to younger scholars. Tales from old romances given orally by the teacher, and illustrated by bright pictures which lay stress on the outward appearance of the people, soldiers, ships, houses, &c., of the times, will be the best material for awakening in the scholars a living interest in history. The more picturesque and dramatic the quality of these stories, the greater will be their effect.

After the first two years, story-telling may give place to systematic instruction in the story of England, and of the United Kingdom. A well-chosen history book should be used at this stage to supplement the oral lessons.

The Board do not prescribe any particular method of treatment, so that each teacher is at liberty to frame that scheme of instruction which shall best accord with his own skill and capacity. All methods will lie in the range between the strictly "concentric" and the strictly "chronological" method, each of which has its particular

<sup>1</sup> Code, Article 44 (b). "In making up the minimum time under Article 43 (b) which is required in order that an attendance may be reckoned for grant, there may be included any time occupied, with the sanction of the Inspector and under arrangements approved by him, by school journeys, or visits paid during the school hours to places of educational value or interest, provided in each case that the time devoted to teaching is not less than one hour and a half." (See page 87, N.U.T. Code.)

<sup>2</sup> *Younger Scholars.*—See also page 6, 3.

advantages. In the concentric method the story of a people, or a prescribed period of it, is successively treated in its different historical aspects, which are taken in the order of difficulty of comprehension by children. Where the chronological order is strictly adhered to, attention should at first be concentrated solely on persons and events; but as the story proceeds, the teaching may gradually become wider and more detailed, and some conception of the development of the modern structure of the State may be given when the more recent periods come to be dealt with. For children in English schools the chief interest in history will rightly centre in the stirring events and in the striking qualities of the central figures of our own history, but it is important that in dealing with times of conflict with other peoples, the teaching should do full justice to those who are national heroes in other countries.

- 1 During the middle stage of school life, lantern illustrations may be used with advantage in connection with history lessons, provided they are strictly subordinated to the needs of the scheme of teaching which has been adopted.

#### *Older Scholars.*

- 2 The scholars and the teacher will find relief from the didactic character which the early stages of history teaching must necessarily bear if the former are encouraged to keep a chronological chart of a simple kind. In this chart striking events of local history should be included.

- 3 The map of Great Britain, and of such other countries as is necessary, should always be at hand when systematic history teaching is given. Though the actual combination of history and geography into one subject is hardly possible, still the influence of geographical conditions on the course of history may be grasped in outline by the children. Useful exercises bringing history and geography into relation will be found in asking the scholars to apply general principles suggested by the teacher in order to account for changes in the relative importance of great English towns at various periods of English history, or for differences in political or other interests which have led to internal conflicts at certain times; and in other ways a teacher with special knowledge of both history and geography may enhance the interest of his instruction.

- 4 Much will be done by successful history teaching to encourage a love of reading in after-life. The importance of access to a good library at this stage of school life cannot be overrated, and the scope and educational value of the instruction can be much enlarged if the scholars join a home-reading circle. Where circumstances permit, some easy home exercises bearing upon history should be given by the teacher, and these should be carefully corrected at school.

- 5 In these later years of school life the aim of the teaching should be

1 Many experienced lecturers and teachers declare that a lime-light illustration will make a deeper impression on the mind than the ordinary wall picture. Whether this is the case or not, it is certainly true that with lantern slides a larger variety of pictures may be brought before the pupils, especially if the school subscribes to one of the houses from which slides are sent out on the "lending library" principle.

4 Is it wise to refrain from recommending pupils to read historical novels because the reading capacity of the pupil is not sufficiently developed to read the book with ease? Do pupils learning a foreign language abstain from reading such books because of similar difficulties?

to furnish the scholars with a connected knowledge in outline of the main course of English history, and of a few leading events in the history of other nations which have influenced our own country. If the circumstances of the school are favourable, the teacher, according to his special knowledge, may with advantage add to the instruction by treating rather more fully, but still with a view to general principles rather than to details, some special movement in English history.

1 If the affairs of a foreign country for any reason attract great public attention the teacher should feel at liberty to depart from his general scheme in order to give a few lessons on the history of the country or countries in which the scholars are for the time keenly interested. Such lessons may be made most fruitful, not only because the scholars will be more than ordinarily attentive, but also because the events of the present often give vivid illustrations of the connection between cause and effect in history.

2 Much skill on the part of the teacher will, no doubt, be required in order to make the suggested scheme of instruction effective, and indeed it would be unwise to attempt it in full unless the homes of the scholars give opportunity for quiet reading out of school. Such teaching, if it can be satisfactorily attempted, will lead the scholars to take an intelligent interest in current affairs, and will give them a feeling for history as the record not merely of events in which the mass of the nation have little personal concern, but also of movements in which each one of us may take an active and intelligent part.

3 For the success of teaching of this kind it is essential that the teacher and the scholar should have free access to standard books which will serve as authoritative sources of information for the scholars. The problem of securing the use of such books will, no doubt, be a serious obstacle in many places; but there are many public libraries containing suitable books which could be brought into much closer connection with the public elementary school than is generally the case at the present time.

4 In Appendix IV. there will be found an outline scheme of instruction in history based on the principles here suggested, with alternative suggestions for the higher classes.

4 Appendix IV., page 121.

History.—See also pages 5, 1; 6, 2; and 75 s.

## CHAPTER IX.

## THE TEACHING OF DRAWING AND HAND-WRITING.

(1) *Drawing.*

In making suggestions to those who have to deal with the teaching of drawing, it may be well to enunciate some principles suitable for general application. In applying these principles due regard should be paid to the circumstances of a school, to the knowledge and abilities of the teachers, to the appliances at their disposal, and, above all, to the diverse degrees of development of the scholars. The application of these principles will therefore vary in different schools.

At the outset it should be borne in mind that drawing is just as natural to a child as speaking or writing, and ought to be as carefully treated. The power of understanding and using language is obviously necessary for those who are to know anything of what is going on in the world around them. In the same way a knowledge of drawing, or the power of perceiving and expressing the meaning of appearances, leads to a fuller understanding of the varied forms and colours which surround us. In fact, drawing is really the reading and writing of form and colour, as it includes the correct seeing and truthful expression of their varied appearances. The opinion that a knowledge of drawing is serviceable only to those engaged in some branch of graphic or constructive art is hardly better founded than the opinion that a knowledge of reading and writing is useless to those who follow a manual occupation.

The aims of the teacher should be entirely educational, the dominant aim being that of enabling the scholar to see correctly and to represent accurately any given object. This aim must be persisted in throughout the school life, as complete accuracy is acquired only by long and well directed practice; and indeed is impossible in the earlier stages of development. In fact, much wrong teaching has been given in the past, and a distaste for drawing has thereby been created, by attempts

<sup>1</sup> *Drawing.*—Code, Art. 2 (4). “Drawing, including drawing from actual objects, memory drawing, and brush drawing; with other simple hand and eye training which, with the drawing, should lead, in the case of older boys, to instruction in handicraft.” (Page 16, N.U.T. Code.)

Teachers should keep in mind the following sentences from Article 2:—“It is not necessary that all the subjects should be taught in every class, and the curriculum as a whole may be modified when the Board are satisfied that the needs of the scholars or the circumstances of the school require it.” (Page 15, N.U.T. Code.)

Code, Prefatory Memorandum.—“The question whether girls should learn Drawing is one that is sometimes asked. The Board recognise that Drawing is often specifically useful to boys, whereas a knowledge of Drawing is less frequently useful to girls in particular employments. Thus one reason why Drawing should be taught to older boys does not exist in the case of older girls; and the claims of practical instruction in Housewifery will often require the omission of Drawing in the case of the latter.

“But the reason for teaching Drawing to younger boys and to infants is not that some of the boys will be more efficient workmen if they can draw. Drawing well taught develops general intelligence, and also cultivates a certain degree of manual skill. It is practically imperative that every girl should learn to sew well, but a girl will probably make greater progress in intelligence and general manual skill if she learns both Drawing and Needlework up to the age of ten years than if all the time available for both subjects up to that age is given to sewing. In the absence of special circumstances, the younger girls should therefore learn Drawing, though it may be omitted where desired from the curriculum for older girls, the time so saved being devoted to Needlework or other forms of practical training for home duties.” (Page 10, N.U.T. Code.)

<sup>2</sup> See also notes on Drawing under the head of “Nature Study,” page 52, 3; “Observation Lessons,” page 49, 2; “Geography,” page 62.

<sup>3</sup> See also pages 49, 2, and 52, 3.

to force children to express with full accuracy what they were physically unable either to see or depict completely. The intelligent teacher will know how gradually to lead the scholar, through the perception and expression of approximate truths in simple forms, to complete visual and executive accuracy in complex forms.

In giving instruction with this dominant aim in view, care should be taken not to restrict the studies to drawing in outline. The expression of form and colour in masses, and in light and dark should be dealt with. And it is necessary that the principle of proceeding from the greater to the less should always be observed, both in the scale of the drawings made and in the forms represented. Young children especially should make large drawings such as can be done as "Freearm" work on blackboards. Smaller drawings can be gradually introduced as the scholars gain power in expression. Colour studies are best begun by representing objects having positive colour, and best continued by passing gradually through the study of things less

<sup>1</sup> positive in hue to objects distinguished by delicate and refined colouring. Drawing in outline should not be confined to work from copies. The ideal plan would be to use no copies at all, the work being all done from real things, but in many cases it may be difficult to follow this plan; in such cases it will be sufficient if the teachers keep in mind the desirability of minimising the use of copies. When the development of the scholars' power of observation allows—and this should be the case with the average child of ten years of age—geometrical models, such as the cone, cylinder, and cube, should be studied in outline, and common objects whose forms are based upon the models should be carefully drawn, the teacher explaining the application of the basic forms of the models to the general shapes of the objects. In the same way the children should be taught, after they have drawn common objects of geometrical shape, such as a candle extinguisher, a jar, a roller, a box, and so on, to apply their knowledge in analysing and representing more complex natural objects into the forms of which these shapes enter.

<sup>2</sup> Memory drawing should be practised throughout the school course, and in most cases it may be practicable to devote the last ten minutes of the ordinary drawing lesson to memory work, the subjects of which can usefully be:—(a) a memory drawing of something studied during the ordinary lesson, to be taken alternately with (b) a memory drawing made after looking at an object shown to the class by the teacher for the space of two or three minutes, and then placed out of sight whilst the drawings are being done. Unless the teacher exercises very great care, memory drawing easily degenerates into a vicious practice that kills all progress in drawing. If an imperfectly visualised image of an object is drawn with facility the scholar is apt to repeat the imperfect drawing, at each repetition exaggerating its defects, and so forming the bad habit of making facile but untruthful drawings.

<sup>3</sup> Elementary modelling may in some schools be introduced with advantage.

<sup>4</sup> If the foregoing plan of study is followed conscientiously, a sound

<sup>4</sup> *Estheticism.*—See page 5, 2.

education in drawing, forming a safe foundation for either utilitarian or æsthetic aftergrowth, will have been given. But there is another aim in connection with the teaching of drawing, which should not be forgotten. It is the important aim of cultivating the æsthetic side of the scholars' nature. The scholar should be taught to perceive and appreciate beauty of form and colour. The feeling for beauty should be cherished, and treated as a serious school matter; it cannot be left to chance or caprice.

If in working a scheme on the principles laid down the teacher has been careful to employ, as far as possible, objects or examples having beauty of line, form or colour, education of the sense of beauty has already begun. But, wherever possible, special attention should be paid to instruction in the principles of beauty, and this can only be effectively done by an analysis of the beautiful things created in the past; and by serious study of the beauties of natural objects. Although the feeling prevalent in some quarters against the study of Greek and Latin language and thought has extended also to the study of Greek, Roman, and Italian examples of Art, the fact remains that the proper study of these classic models is essential to a right conception of the principles of beauty. It is true that in the past attention, often with some disadvantage, has been exclusively devoted to the study of classical forms. But it does not follow that they should be discarded. The proper course is to make use of them concurrently with a study of the beauties of natural objects. A beginning may be made in this direction by comparing the curves of growing and living forms with the curves of ornamental objects and compositions. Attention should be drawn to the beauty of the curves both natural and ornamental, and after the children have themselves compared the two, and have been trained to some dexterity in drawing ornamental curves, they will be better fitted to analyse and draw the more complex natural forms exemplified in the contours of fruit, flowers, leaves, animals, etc. Attention to truth of drawing in the nature study lessons will be a powerful aid in this direction.

Beauty of colour should also be pointed out and the use of beautifully coloured shells, butterflies, birds, etc., as well as flowers and plants will be very useful in this regard. Their tints should be compared with those of colours in decoration, dress, etc., etc., crudities should be pointed out, and something of an elementary nature should be said about the scientific principles of harmony and contrast of colour.

But there is yet another aim to be observed. It is that of cultivating the inventive powers. If a child learns to read and write words,  
3 it is reasonable that he should use his knowledge in the art of written composition. It is the same with drawing: The imaginative and inventive powers are capable of stimulus and of development by

<sup>3</sup> There are some schools where the scheme described in this paragraph has been developed to a remarkable extent, mainly by means of home lessons. In such cases children are not required to complete the work in one evening, but are encouraged to work out the details of the design at leisure. This kind of work is, however, not possible in a school which is understaffed, but in a school properly equipped, particularly where some member of the staff takes a keen interest in the subject, it is not unusual to find instances of former pupils who are now earning a living as the result of such teaching.

exercise. For the scholars in elementary schools perhaps it is best to make this a matter of home work. The teacher may encourage the scholar to make a drawing illustrating something dealt with in, for example, the history lesson.

From time to time the scholar should be encouraged to depict with brush, pencil, or chalk, some word-picture or idea, and when he begins to practise literary composition his power of graphic composition may be exercised by illustrating what he writes. In reading lessons, too, the teacher should call upon individual scholars to come to the blackboard and explain or illustrate some word or phrase by means of a sketch.

Throughout the course the acquirement of manual dexterity should be aimed at, and this can only be the result of repeated manual exercise, sufficient time should be allotted for the practice necessary to acquire facility.<sup>2</sup> But the teacher should see that dexterity is not obtained at the expense of veracity. Every touch of the pencil, brush, chalk, or other medium of expression should have its intention and meaning. Nothing can be more harmful to a scholar than the habit of drawing meaningless forms, however dexterously they are done.

In the later years the teacher may give some training in elementary designing, and show how beautiful forms and colours may be combined so as to make simple patterns in the first instance, and more elaborate ones later. Designing should, however, only be attempted in schools where the circumstances are favourable, and it is clearly unfitted for general adoption.<sup>3</sup>

The main objects of teaching drawing are here stated in their order of importance, and they should be the governing factors in the arrangement of a syllabus; the principles are equally applicable to drawing with pencil, pen, or brush, to modelling, and to other forms of educational handwork.<sup>4</sup>

In framing their schemes teachers should bear in mind that drawing is not an isolated subject, and that it should be correlated with other subjects of the Time Table, such as nature study, woodwork, elementary science, geography, and the practical applications of arithmetic. In teaching handwriting the children should be shown how almost all the letters can be made up of ellipses or parts of ellipses and straight lines; and from many points of view, there is an advantage in not beginning handwriting until drawing has been learnt for some time.<sup>5</sup>

The hand and eye training should be continued in some form or other through the whole school course, and there should be no abrupt break between the Kindergarten occupations of the infants and the Manual Training of the older scholars in woodwork or metal work.<sup>6</sup>

In the outline suggestion for a scheme of instruction given in Appendix V., it has been thought practical to indicate the order and growth of the subject.<sup>7</sup>

Care should always be taken that the scholars do their work in drawing under reasonably wholesome conditions. Children should

not, as is sometimes the case, be obliged to press the chest against the front edge of the desk in order to reach comfortably a board fixed at the back of the desk. For blackboard drawing, upright boards fixed to the walls of the school are the best. The scholars should not be allowed to bend over their drawings or to fall into the habit of looking too closely at them. They should be taught to lean back so as to see the whole of the drawing with ease.

(2) *Handwriting.*

The art of handwriting<sup>1</sup> is related to the art of drawing and to other forms of the education of hand and eye, since its acquisition depends upon accurate observation and faithful reproduction; and no attempt need be made to teach handwriting before the children have received a certain amount of preliminary instruction in free-arm drawing.

When children have once acquired a firm control over the movement of their fingers, and a certain degree of skill in shaping the letters, there is no longer need to insist on the exact formation of letters after a certain pattern. Attention should rather be devoted to securing conformity with certain general principles as to form, size, spacing and joinings, in order that a clear and legible hand may be developed.

If for no other reasons than those of hygiene, correct posture at handwriting lessons (or at any lessons in which the children write) is of very great importance; and before a child can take up the correct posture it is necessary that the desk at which he sits should be suitable in size and construction. This point should always be remembered by teachers and others when the purchase of new desks is contemplated.

A child when preparing to write should be required to sit upright and square to the desk, with his feet firmly planted in front of him on the floor or foot rest; and the teacher should never allow a deviation from these two essential points to pass uncorrected, though if these points are secured it is perhaps better to neglect minor points. No child should ever be allowed to lean with his chest against the edge of the desk. The left arm should be placed along, but not on the desk, and the left hand on the paper. In holding the pen or pencil the child's first and second fingers should be straight or bent slightly outwards, never rigidly bent in. A slight motion of the pen can then be made without any other motion of the hand. The pen or pencil, to encourage finger movements, should be held at least an inch from the point, and should be inclined to the paper at not less than  $60^{\circ}$ . The child should always be able to see the point of his pen or pencil as he writes. The paper should lie squarely on the desk.

No angular system of handwriting should be taught, and all systems which sacrifice legibility and a reasonable degree of speed

<sup>1</sup> Writing—Code, Article 2 (2). "Handwriting, which should be taught so as to secure speed as well as legibility."

<sup>1</sup> See also Code, Article 1 (c). Curriculum for Infants' Schools.

<sup>1</sup> See footnote, Article 2 (2), N.U.T Code, page 16.

<sup>1</sup> Handwriting.—See pages 5; 26, 2.

to supposed beauty should be eschewed. A bold, legible hand should be the first consideration; attention should be paid to the forms and proportions of the letters; simple outlines should be encouraged, and all merely ornamental and useless strokes should be avoided; the letters in the same word should be properly joined, and the spacing between letters in the same word and between successive words should neither be cramped nor exaggerated.

<sup>1</sup> Training in making the various simple strokes which are requisite for the formation of letters will be preliminary to handwriting. The lines and curves may be practised successively in the sand tray, with chalk on the blackboard or on prepared walls, then with brush and pencil on a smaller scale, and finally with the pen.

<sup>2</sup> When writing in ink comes to be practised it is most important that all the materials should be good; it is impossible otherwise for children to make due progress in handwriting.

<sup>3</sup> In any lesson which is not in itself a lesson on handwriting, over-laborious attention to copy-book neatness is out of place just as much as the use of the ruler. Teachers should insist on written exercises being done with the maximum degree of rapidity consistent with full legibility.

<sup>2</sup> *Materials.*—Wherever the contract supply system prevails and materials are sent direct from the publisher to the schools, it is desirable that each school should be supplied with a recognised standard sample. This tends to obviate disputes as to the quality of goods delivered. Many local authorities expect their teachers to at once report any deterioration in quality.

## CHAPTER X.

## THE TEACHING OF SINGING.

By wisely-chosen songs the natural play of the healthy emotions of childhood can find an expression at once ample and controlled. To awaken the imagination and widen the capacity for emotion, while subjecting its expression to artistic restraint, is one of the higher educational aims. The use of lyrical poetry, the practice of music and of rhythmic physical movements, are alike valuable for this purpose; and where, as in good songs, lyrical poetry is associated with musical expression, the result on the child's mind is a growing sensitiveness to the rhythm and harmony which it is the special office of music, and, indeed, of all the rhythmic arts, to express. Moreover, the rudimentary artistic sense of childhood can be first awakened by means of song. A song is the only perfect art-form which it is possible for a very young child to reproduce; its use is not confined to school hours, but is increasingly associated with every phase of home and national life. The common enjoyment of singing brings about a relation between teacher and class conducive to the best understanding, and, consequently, to the maintenance of discipline.

The teaching of singing and the teaching of the mother tongue can be closely associated at more than one point. For example, well-chosen songs will often be suitable for lessons in reading or recitation; while in the earlier stages training in proper breathing and the accurate production of speech sounds will be as valuable aids to good speaking as they are to sweet singing. A child's speaking voice should indeed be made musical no less than his singing voice. Simultaneous recitation and simultaneous reading aloud are as objectionable on musical as on educational grounds, because the use of such methods is sure to produce reading and recitation which is either frankly unintelligent or marked by a fictitious or imitated intelligence. Such reading or recitation is, therefore, both monotonous and mechanical, and will blunt a child's sensibility to musical influences.

The teaching of history can be frequently illustrated through the teaching of singing, since there is a wide choice of suitable songs illustrating national feeling at various stages in our own history or in the history of other nations.

The successful teaching of singing, in addition to fulfilling the educational purposes above mentioned, will cultivate a power of musical expression which will enable the children in after life to extend their knowledge and appreciation of the best music of all kinds.

These conditions are satisfied in a high degree by national or folk songs, which are the expression in the idiom of the people of their

Code, Article 2 (8).—“Music, which should be taught by class singing, and should include the practice of good songs, together with reading at sight (in both notations where possible) and a training in elementary musical knowledge. National songs should be freely used, even in the lower classes. The care of the voice and the proper application of breathing exercises should also receive attention.”

<sup>1</sup> Songs.—For list, see page 131.

joys and sorrows, their unaffected patriotism, their zest for sport and the simple pleasures of a country life. Such music is the early and spontaneous uprising of artistic power in a nation, and the ground on which all national music is built up; folk-songs are the true classics of a people, and their survival, so often by tradition alone, proves that their appeal is direct and lasting.

If children are to place a due value on their inheritance of the best music of the nation to which they belong, their progress in musical <sup>1</sup> power should be in epitome that of the race, and this it cannot be if the old songs are ignored.

Some of the folk-music of England, Scotland, Ireland, and Wales is unsuitable either in words or in compass for the use of schools, and <sup>2</sup> care must therefore be taken in making a choice. Many of the selections which are now available are suitable in every way.

The songs chosen for infants should be musically as simple as possible; but it is not necessary that infants should understand all the words they sing, as the chief appeal is not to the intellect, the training of which is the purpose of almost every other subject in the curriculum, but through the spirit of the song to the unconscious mind of the child. For this reason it is important that English and <sup>3</sup> Welsh children should learn the songs of Scotland and Ireland as well as those which are their own particular inheritance. Scholars in the higher classes may usefully sing carefully selected songs from the music of other countries, and these, apart from their value as music, may be so chosen as to convey an impression, truthful so far as it goes, of the characteristic traditions of other races.

To the national songs there may be added for the higher classes a few selected songs from the very great masters, such as are used in <sup>4</sup> the Training Colleges for the cultivation of musical taste. These, like all the songs used in the school, should, for reasons given below, be generally arranged for unison singing.

For school entertainments and similar occasions other music is admissible in a limited degree, but the selection should always be made with great care. Much of the music published for school use, whether considered from a musical, literary, or historic standpoint, is quite devoid of educational value, and it is customary in certain schools to use music of a vulgar or ephemeral character to accompany <sup>5</sup> marching and physical exercises. Even in the latter case there is no justification for the use of any but good music. Among the folk-songs there are many tunes which are as suitable in rhythm for the purpose in question as they are delightful in other musical qualities. That children should only hear what is intrinsically good is the fixed principle which should govern the use of music in Elementary Education.

It is of great importance that the teaching of singing should include at every stage instruction of a progressive character in the elements of Musical Theory, including a knowledge of times, keys, scale <sup>6</sup> intervals, and in certain cases the elements of transposition, so far as is necessary to enable the scholars to read music and to sing by note instead of by ear. No training in singing by ear, however good the

songs may be, can lead to any development of the power of musical expression, or, indeed, to a growing comprehension of music; and in so far as the scholars are unable to read music their elementary musical education is incomplete.

Experience shows that children can be taught to read simple music at an early age, and for this special purpose the value of the Tonic Sol-fa notation can hardly be placed too high. The teacher, however,  
1 should always aim at developing the power to read the Staff notation, although as a necessary stage in the training of young children every step in the Staff must be previously explained by the corresponding step in the Tonic Sol-fa notation. When this method is adopted even infants can be trained to read with ease passages in Staff notation.

It must be remembered that the use of the Modulator is not in itself a reading lesson, and the charts so much used are of value only if they are frequently changed, because a few children soon learn them by heart and then lead the class. Blackboard writing is good so far as it goes, but in the short time which can be set apart for this subject it is difficult to write sufficient music to give the children  
2 adequate practice. For these reasons the use of reading books is advised, and their cost is now so small that there is no reason why every child should not possess one. By this means alone can the reading of music receive the treatment which is necessary if the aim of developing musical power is to be properly carried out. The teaching of reading at sight does not require on the part of the teacher any special musical equipment other than a cultivated ear, and there is no reason why good results in this branch of teaching singing should not be obtained in every school.

The care of the voices during school life must have special consideration in order that the adult voice may not be injured. Moreover, a reasonable degree of attention to this point will secure agreeable execution in childhood, and will enable the scholars to  
3 continue their study and practice of music in later life as singing members of choral societies. Suitable breathing exercises are included in the Revised Course of Physical Training, and the practice of these will be a valuable preliminary aid to instruction in the right method of producing the singing voice.

Children who are not taught to use their voices properly are very apt to form the highly injurious habit of using only the lower or "chest" register of their voices when they sing. If they attempt to sing an ascending scale in this register it will be noticed that their voices break when they reach C or D, and that the rest of the passage will be sung in the "head" register, which is the true child voice to be cultivated. A short daily practice of a few minutes will be sufficient to secure the use of the proper register if the following rule is attended to. Let the children sing a note high enough to be out of the "chest" register ( $D^1$ ,  $E^1$  flat, or  $E^1$ ), and then, in the "head" voice, a descending scale or passage, using the vowel sound of the word "on," requiring the use of the "chest" voice only in the lowest notes, if at all. Quiet and slow practice of a few such passages each

day will render the tone of a class pure and beautiful and will preserve the voices against the time when they break or alter. The teacher should remember that children can sing quietly more easily in the right than in the wrong way.

It is advised that unison singing should be the general rule throughout the school, but in order to develop the power to sing independently of, but in harmony with, other voices, rounds or catches may be used, and in the upper classes simple part-songs may occasionally be practised. In the latter case it must be remembered that with few exceptions the compass of the voices in a class will be much the same, and therefore there should never be more than two parts, while the *alto* should not be too low. The *altos* of one day should be the *trebles* of the next, for to set apart certain children always to sing *alto* will have a disastrous effect, since the "head" voice is the proper voice to be cultivated, and it is almost impossible for a child to sing *alto* in it.

Good results can only be expected if a short time is given to singing each day, and a few minutes daily will be far more fruitful than one or two half hours each week. With from ten to fifteen minutes each day the highest results are obtained in many schools, and this should be the minimum time given if the subject is considered to be worth serious attention.

In Appendix VI. a detailed scheme is given for carrying out at every stage in the Public Elementary School the instruction here suggested; and lists of suitable songs are given in the same Appendix.

<sup>3</sup> Appendix VI., see page 128.

<sup>3</sup> Particulars respecting the publication of School Songs will be found on page 133.

## CHAPTER XI.

## PHYSICAL TRAINING.

The school is immediately concerned with bodily development as well as with intellectual progress and the formation of character.

<sup>1</sup> All these sides of the school work are indeed closely connected, and to neglect physical education is also to sacrifice a valuable instrument for furthering intellectual and moral training.

Systematic physical exercises are necessary in order to further the growth and harmonious development of the frames and muscles, and in order that the scholars may be able to understand the conditions of good health, simple instruction in personal and domestic hygiene <sup>2</sup> should be given wherever it is possible. Such instruction should cover the matters more particularly referred to in Chapter XIV., and an outline scheme is given in Appendix VIII.

Physical exercises should be practised in every school according to an approved system. The Board recognise that facilities for such instruction do not exist in every school. Not only competent teachers but suitable playgrounds and schoolroom accommodation are absolutely necessary if physical training is to be thoroughly given. At <sup>3</sup> the same time, some definite instruction can and ought to be given in every school, no matter how situated; but the Board, while expecting this, will have regard to the necessary limitations in cases where it is impossible at present to have a complete course of instruction thoroughly carried out.

The Board, in conjunction with the Scotch Education Department, have recently issued a syllabus of physical exercises of graduated difficulty from which teachers can devise progressive courses adapted to the different stages of the elementary school life. The preparation of this syllabus has been the consequence of a very careful consideration, from several points of view, of the requirements of children in Public Elementary Schools, and the Board believe that it will be accepted as an advance upon any system hitherto in use. The <sup>4</sup> principles underlying physical education are carefully set out in the introduction; and it is hoped that any system which attempts to carry out these principles will prove to have so much in common with the Revised Course that it can readily be modified so as to come completely into line with it. While uniformity of method in the matter of physical training is very desirable, it is contemplated that it should be the teacher's duty to arrange his own syllabus.

Before approving any course which differs widely in scope and <sup>5</sup> aim from the Revised Course, the Board will require its principles to be fully explained, and good reasons given for their adoption. Where they are unable to approve any existing course which is in use under

<sup>1</sup> Code, Article 2 (9).—"Physical Exercises, including exercises in proper breathing. As a rule the official syllabus of physical training should be followed. Physical training should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air; and by careful cultivation of a correct posture at writing and other lessons." Page 117, N.U.T. Code.

<sup>2</sup> Chap. XIV., page 89. Appendix VIII., page 136.

<sup>4</sup> This Syllabus of Physical Exercises will be found on pages 162 to 213.

a Local Education Authority, the Board will not press for an immediate change, but they will expect the Revised Course to be introduced as soon as possible.

<sup>1</sup> A system of physical exercises should aim not merely at improving the physique of the scholars. It should tend, in addition, to develop qualities of alertness, decision, and concentration; and should promote the complete co-ordination of the movements of the body under the control of the mind. The latter aim has an immediate connection with the rest of the school work, and in so far as a course carries out that aim it is educational in the best sense.

<sup>2</sup> As a condition precedent to good physical development, children must not only be well fed, but the functions of nutrition must be well performed. It is, therefore, necessary, in the first place, to give careful attention to exercises which affect the respiration and circulation. Every system of physical training should therefore make full use of the natural free play movements of children, especially as exhibited in running and skipping games, and should also include breathing and other exercises specially designed to increase the capacity of the chest and strengthen the chest muscles.

<sup>3</sup> In order to secure the educational effect of physical training, there should be included exercises, like those of balance, which have more special relation to the acquirement of full control over bodily movements. It is to be remembered, however, that when exercises of this class have been so well learnt by practice as to become automatic, their immediate educational value disappears, and the continual addition to the course of further and more difficult exercises is necessary in order to complete the usefulness of physical training.

<sup>4</sup> Occasional short periods of vigorous movement, designed solely to stimulate circulation and respiration, should be used as a wholesome means of refreshment for both children and teachers. No special skill on the part of a teacher is necessary for the conduct of exercises of this type, which should be performed several times daily by the children standing up in their places in class.

<sup>5</sup> Every teacher who conducts a complete system of physical training ought to be able to decide what children are plainly unfit, whether by reason of malnutrition or of ill-health arising from other causes, to undertake the full course which normal children can pursue without any risk to health. Other children, in whose general appearance there is nothing to indicate physical unfitness, show symptoms of breathlessness, or excessive fatigue after exercise, and should be excluded from physical training until a medical opinion has been obtained. All teachers ought to be able to decide which children should be excused physical exercises until an expert decision as to their fitness has been given. The physical training of older girls should always be in the hands of women teachers.

<sup>6</sup> Local education authorities who contemplate establishing special classes for preparing teachers in this subject should bear in mind the points just mentioned. The course of training should therefore

<sup>1</sup> *Physical Exercises.*—See also page 5, 2.

<sup>2</sup> See Circular on Underfed Children, N.U.T. Code, page 257.

include some elementary instruction as to the signs by which the fitness or otherwise of a particular child to undergo physical training can be determined; and the instruction of women teachers desiring to qualify themselves in this subject should always be given by women with expert knowledge.

#### *Organised Games.*

The importance of organised games as an educational factor is in many schools very fully recognised, and the Board desire to call special attention to the fact that such work is of the greatest importance amongst the less fortunately situated children. It is not an infrequent experience to find that such children do not take part in playground games either from lack of initiative or because they prefer rough play. There is no better work in the field of education than to inculcate a wholesome love for games in the playground, for to do this means the creation of an *esprit de corps*, and a readiness to endure fatigue, to submit to discipline, and to subordinate one's own powers and wishes to a common end. It is for this reason that schools which can raise football and cricket teams, swimming clubs, and cadet corps are wont to exhibit such excellent work inside the walls of the school; and there is little danger that under the conditions of the Public Elementary School the pursuit of games can in any way interfere with that which is more generally understood as school work. Even if a school is unable to furnish a team, games may be instituted in the playground or on open spaces to replace the disorganised rough-and-tumble which characterises so many of the activities of our poorer population. Every encouragement should be given to the teaching of swimming, especially in places where public baths are available for the purpose; and life-saving lessons should be given at the same time. Self-reliance, decision, and a power to obey as well as to command, will be cultivated in this way as freely as they can be cultivated in the schoolroom; and it seems clear that unless the school in some way recognises this type of work, it does not perform in the highest possible degree its full duty to the children, not merely in respect of their physical training, but in regard to the equally important aim of the development of that generous and cheerful temper which will be so serviceable in later life.

<sup>1</sup> The Board of Education recognise lessons in Swimming under proper conditions as part of the minimum time constituting a school attendance for the purpose of Parliamentary Grant in respect of Public Elementary Schools but the time devoted to such lessons must not be included in the minimum time devoted to Physical Training. (Reply given by the Secretary to the Board of Education to a question in the House of Commons, April 10th, 1905.)

*Games.*—See also pages 7, ; 138, 6; 141, 2.

## CHAPTER XII.

## THE TEACHING OF NEEDLEWORK AND HOUSECRAFT.

(1) *Needlework.*

The teaching of Needlework should be arranged so as to have educational value as a form of manual training, as well as immediate practical utility. The course of instruction should, therefore, be progressive in character, and each girl should, as soon as possible in the course, make a useful garment.

It is not compulsory that girls under six years of age should be taught to sew. Training in free arm movements and in free hand movements ought to precede practice in the more delicate finger movements which are required in ordinary sewing. In the opinion of some competent judges children under six cannot be taught needlework without risk of injury to their eyes. The practice of knitting by young children is not open to the above objections.

Materials and stitches of too fine a character will lead to undue strain on the eyesight of the children, and the practice of needlework of this kind will be considered as a defect in the instruction.

Counting threads must never be practised. This habit is not merely dangerous to the eyesight of the children, it is also inconsistent with the use of needlework as a form of hand and eye training.

The instruction of children of weak eyesight requires special care in order that no exercise shall be given them which may damage their eyes, and certain children should be excused altogether.

Coloured cottons should be used in the lower classes, and in test exercises worked by the upper classes, so that the accuracy of the work shall be readily judged; attention should also be given to general neatness of finish, including careful "joinings" and "fastenings."

New stitches should always be taught on waste material, but when thoroughly mastered should at once be applied to the making or mending of garments. It is important that sufficient opportunity should be given for practice in mending garments; but in cases where there are sanitary or other difficulties, pieces of material may be used to represent the various parts of garments needing special kinds of repair.

The garments made by girls in the lower classes should, as a rule, be cut out by girls in the higher classes. The folding and tacking of the hems and seams should be done by all girls who make garments, but the girls in the lower classes should only be required to fix their work under the direct supervision of the teacher.

In cutting out more attention should be given to correct proportion and intelligent work than to elaborate or trimmed paper models.

A specimen scheme for teaching needlework is given in Appendix VII. Any alternative scheme which complies with the conditions

<sup>1</sup> Code, Article 2 (10).—"Practical Housewifery (for girls only), including knitting, plain sewing, darning, and, in the higher classes, mending and cutting out. Where possible older girls should be given a practical training in cookery, laundry work, and household management. In suitable localities dairy work may be taught." N.U.T. Code, page 17.

<sup>10</sup> Appendix VII., see page 135.

prescribed in this chapter, and includes a proper proportion of cutting out and garment making, will be approved. Half-time scholars, or scholars who only attend during part of the year, need not meet the full requirements of any scheme, either in garment making or in the practice of stitches.

Instruction in needlework should be given regularly throughout the year, and exercises in accordance with the approved scheme of instruction, and sufficient in number to show that steady progress has been made should be preserved at the school to be shown to the Inspector if required. In the absence of a sufficient number of useful garments the teacher must be prepared to show that thorough instruction has been given in cutting out and making up.

### (2) *Housecraft.*

<sup>2</sup> Girls over eleven may be instructed in cookery and laundry work or in either, under the conditions of Schedule III. of the Code, and girls over twelve may be instructed in household management. The course of instruction in household management must include cookery, laundry work, and practical housewifery, and should be a thorough training in domestic duties.

<sup>3</sup> Teaching of this kind will have some definite educational value similar to that of manual instruction, but it is much more important in its practical aspect. Though the classes should never resolve themselves into a training for domestic service or for any other special employment, they ought to be designed to fit girls, by repeated practice, to undertake when they leave school the various household duties which fall more or less to all women.

<sup>4</sup> Throughout the teaching in domestic subjects it should be impressed upon the girls that due thought for themselves and for their homes is essential for health, and that a knowledge of household duties will aid in securing their comforts and well being. They must therefore be taught in the first place the importance of personal and household cleanliness, and they should learn how to economise labour by the proper ordering of household duties. They should be brought to understand the importance for young and old alike of wholesome food and sufficient clothing, and they should know how to tend young children. The instruction they receive should also show them what opportunities a thrifty housewife has for increasing domestic prosperity by prudent outlay and judicious saving. And a course of lessons in household management should not omit to teach the scholars how to choose personal and household belongings wisely.

<sup>5</sup> Some simple lessons in ambulance work may, with advantage, be given to girls during the last year of their school life. They may also

<sup>1</sup> Should illness of an infectious character break out in the school, all specimens should be at once destroyed.

<sup>2</sup> For Schedule III. of the Code, see page 51, N.U.T. edition.

The fact that grants are not paid in respect of children under certain ages in Housecraft, Handicraft, &c., is said to lead to considerable difficulty in the working of the classes from which these children usually come. But it is understood that ineligibility for grant does not mean that a child must not take the subject; and in schools where the large majority of the scholars in, say, Standard V. leave for the Cookery Centre, it may be desirable to send the remainder, although grants are not paid in respect of that remainder.

be taught the use of a clinical thermometer and how to treat childish ailments.

If these aims are kept in view the training should lead the scholars  
1 to set a high value on the housewife's position, and to understand that  
the work of women in their homes may do much to make a nation  
strong and prosperous.

In each branch of instruction the apparatus and fittings used by  
2 the girls should be similar to those likely to be found in their homes.

In cookery lessons the aim should be to give thoroughly practical instruction in the choice and preparation, with due regard to economy and the home circumstances of the children, of the essentials of a wholesome diet. No attempt should be made to give instruction in the higher branches of cookery or in anything outside the  
3 ordinary possibilities of a simple artisan household; nor should theoretical instruction as to the methods of cooking, or as to the principles of digestion, go beyond what is necessary for a general understanding of the methods practised, and of the general lines on which the diet suitable for different ages of life must be regulated.

In every lesson strict attention must be paid to economy, order,  
4 and cleanliness, and this is, if possible, of greater importance in the work of the teacher than in that of the scholars.

## CHAPTER XIII.

## HANDICRAFT AND GARDENING.

(1). *Handicraft.*

The general purpose of manual instruction is much the same as that with which drawing is taught to children, and certain forms of manual instruction suitable for lower classes are referred to in Chapter IX. For older scholars manual instruction should take more specialised and technical forms, while preserving the same intention. This intention may be shortly described as teaching the  
<sup>1</sup> children to think clearly and work accurately through the discipline of hand and eye, and to form habits of industrious, careful, and accurate work. In so far as manual instruction attains these ends, it will be a valuable aid in the development of character, since it will foster that self-reliance which comes from the successful production of tangible and permanent results.

Successful manual training in handicraft will also have an additional value in awakening an interest in the industrial (in this not excluding the agricultural) side of national life, and in encouraging  
<sup>2</sup> boys to look forward to earning their living by manual work instead of preparing to seek positions as clerks or office-boys.

The manual training of boys should be continuously progressive from the kindergarten occupations of the infant school, through the clay and cardboard modelling of the younger scholars, to bench work  
<sup>3</sup> and the use of the tools of wood or iron handicraft by the older scholars.

*Equipment of Handicraft Class Rooms or Centres.*

In the handicraft centre or classroom there should be for each scholar not less than four feet run of bench, and a space of at least two feet in front of the bench; there should be for each a wood or metal vice, as the case may be, and a set of bench tools, with a  
<sup>4</sup> proper place in which to keep them. Supplementary tools should be conveniently arranged.

Among the chief tools required for the early stages of handicraft are the rule, the marking knife or scribe, the try-square, the jack-  
<sup>5</sup> plane, the saw, the hammer, the screw driver, and the chisel.

*Scope of Instruction in Handicraft.*

Instruction in handicraft should comprise a carefully graded course of work involving exercises in the proper manipulation of the commoner tools, and should include, as an integral part, training in the special drawing from which the work at the bench is done. The  
<sup>6</sup> Board will be prepared to consider schemes drawn up with reference to the special tools, and materials of important local industries, and any such schemes should be submitted to the Inspector in the first instance before the commencement of the instruction.

<sup>1</sup> See Schedule III. (13), page 56, N.U.T. Code.  
<sup>1</sup> *Handicraft.*—See also page 19, 1.

The teacher should draw up, and submit to the Inspector at the beginning of the course of instruction, a graded series of exercises suited to the strength and ability of the scholars and designed to give 1 an elementary knowledge of the principles of construction. He should also draw up for approval a list of ornamental and useful objects in the making of which the exercises are to be practised.

The drawings should be made by the scholars under the immediate supervision of the teacher of handicraft, and preferably in the handicraft centre or class room immediately before the corresponding bench work is done. These should be made full size or to large scale, and 2 should not be copies of other drawings. They should be made from a model or a freehand sketch, or from instructions. Accuracy in working the drawings is important, and the dimensions should be fully figured.

The construction and mode of use of the tools should be carefully explained, and demonstrations should be given illustrating the proper 3 methods of sharpening cutting tools, and of keeping them in working order. The advanced scholars may with advantage be taught to grind and sharpen the edge-tools they use.

Instruction in woodwork should include lessons on the various kinds of hard and soft woods, the growth and structure of timber, its fibre and grain, and the use of the commoner varieties. These lessons should be illustrated by longitudinal and cross sections of the chief 4 descriptions of timber commonly employed. Some part of this instruction may be usefully given in the course of school walks and excursions.

#### *Woodwork Exercises.*

Sawing off across the grain and sawing down along the grain should be among the earliest exercises. The blocks or strips of wood used should have the required dimensions marked on them by the scholars from their own drawings. Instruction in the use of the plane may be begun with simple surfaces of about three inches in width. The planing of two surfaces at right angles to each other, the preparation of right prisms of rectangular and polygonal sections and the construction of bevelled straight edges might follow later. Many teachers have found that the joints used by carpenters form the basis of a valuable 5 series of exercises by which the use of the tools mentioned above may be learnt. Lessons on methods of holding or fastening by means of nails, screws, and glue, as well as by fitting, should be given. If a lathe is available, the work of the more advanced scholars may include the simpler forms of turning. In all cases neatness of workmanship and a due regard to accuracy and finish should be insisted upon.

#### *Exercises in Iron Work.*

The instruction may most conveniently begin with the cutting-out and shaping of geometrical and other forms in sheet metal. More advanced scholars may be instructed in producing a plane surface by chipping and filing, and in making geometrical solids of given dimensions. The making of a bolt-head, a hexagonal prism and a hexagonal 6 nut will be found good exercises in the use of the file, and these may be

followed by the making of a nut-gauge, a set square, an L-square, and various kinds of punches and chisels. Drilling a circular hole in an iron plate, screw cutting, and similar exercises will enable a scholar to take part in the construction of useful tools. These exercises may be followed by instruction in joining metal work by soldering, brazing, riveting, and welding. If there is no smith's hearth, the use of cold riveting may be shown, while the use of the hammer may be practised with bar-lead in place of hot iron. If they can be provided, a lathe for metal work and a blacksmith's forge will be found extremely useful.

(2) *Gardening.*

Where the circumstances of a rural school are such that no instruction can well be given in handicraft of the kind above described, it is highly desirable that the boys in the higher classes should be taught gardening. Indeed, in any case the teaching of gardening is advisable.

The object of the classes in gardening is not to provide a preliminary apprenticeship for those boys who may become professional gardeners when they grow older. School gardening ought to be carried on with a definite educational purpose. The school garden will, in the first place, be of great service in illustrating object lessons and elementary science lessons, whether given to the scholars who are taught gardening or to others; instruction in the rudiments of the gardener's craft will have some value as manual instruction; and the boys will find opportunities for making a definite practical application of the elementary science that they are taught.

If one of the teachers of the school is sufficiently skilled to undertake the instruction in gardening, he will find ample opportunities for connecting it with the rest of the school work. Estimation of the accounts of the garden, and, if a rain gauge is kept, occasional problems as to the rainfall, will afford most useful practice in arithmetic; the planning and laying out of the garden and the determination of its slope will yield exercises in scale drawing and in mensuration; and some of the produce of the garden will be valuable as examples for drawing lessons.

Where gardening is taught, it is important that the scholars should learn how to raise several different kinds of vegetable crops, and not merely the one or two which it may be most profitable to grow for the market in the gardens of their parents. The educational value of gardening will be not least in districts where the conditions of soil and climate are not very favourable, and where, in consequence, more skill and labour are required to ensure good results. If the conditions are highly favourable, the cultivation of the school gardens should be correspondingly extensive if the full educational benefit of the instruction is to be obtained.

One method of setting out a school garden is to assign to the boys, working singly or in pairs, their own plots, for the cultivation of which they should, if possible, be responsible. In order that the work in each plot may be easily judged, the plots should be regularly

<sup>1</sup> *Gardening*.—See Schedule III. (12), page 55, N.U.T. Code.  
<sup>1</sup> *Gardening*.—See also page 19, 1.

arranged in rows and so cropped that the growth of the same vegetable should run in line across several plots.

The scholars may also work in common on a single plot, and a somewhat greater variety of produce can be dealt with if this plan be followed, and there will be a saving of expense in the matter of tools.

Besides the plots in which the boys work, the school garden should, if there is room, contain a demonstration plot for the teacher, with one or more fruit plots and a seed bed. The boys may then be taught pruning, grafting, and the elements of general fruit culture, in addition to vegetable growing.

Great importance should be attached to the keeping of methodical records of the operations performed at the various stages, and of the dates on which the several crops appear; and a daily record of the weather and of the rainfall should also be kept either by the teacher or by the class.

Strict accounts of the expenses and receipts in respect of each plot should be kept by the scholar or scholars in charge of it, and it is advisable to assign the profits, if any, to an improvement of the ground, or of the implements with which the boys work. If the produce is not sold it may, of course, be assigned to the scholars in the gardening class.

The tools should be kept clean and in good order by the boys. Each boy would, as a rule, require a fork, a spade, a rake, and a draw hoe; and for general use one or two Dutch hoes, lines, wheelbarrows, water cans, with one or more sets of pruning knives, will be necessary.

A well-kept garden attached to a school will be very useful for educational purposes, even if gardening is not taught.

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## CHAPTER XIV.

## THE SCHOOL AND THE HEALTH OF THE SCHOLARS.

Questions which arise as to the health of children in Public Elementary Schoo's fall into two main classes. The school has first of all to consider the requirements of those children who are normally healthy in mind and body, and it must furthermore take account of those children who are below the normal standard while not sufficiently wanting in either physical or mental capacity to be incapable of deriving benefit from the ordinary teaching of a Public Elementary School. Special medical knowledge is necessary in order to decide whether children are so far below the normal standard, whether of physique or intelligence, that it is desirable to exclude them from ordinary school life, but it often rests with the teachers to present difficult cases to the proper authorities, and some general guidance can be offered as to the kind of cases where a skilled opinion is necessary.

Physical training on its purely educative side is not discussed in this chapter, but other aspects of it will be incidentally referred to.

(1) *Normally Healthy Children.*

All children should be trained in good habits by the teachers, and should receive simple instruction which will enable them to observe the principal rules for the preservation of health. The effect of this teaching will be the greater, the more the principles impressed upon the scholars are illustrated in the daily routine of the school. Apart from this consideration special precautions must be taken in view of the fact that the cubic space per child is far less than that which would be satisfactory in the case of a dwelling house.

Compliance with the Building Regulations will ensure that new school buildings are hygienically satisfactory; but even in older buildings hygienic conditions, though not so easily attainable as in modern schools, can be secured by intelligent observance of essential points.

*Ventilation.*

No matter how complete the arrangements for the continuous ventilation of a class room may be, the scholars should leave the room at least once during each meeting, and the doors and windows should be thrown wide open. Before and immediately after each school meeting the windows and doors should be opened to their fullest extent in order that the school may be thoroughly flushed with fresh air. No lesson in physical training should be given with closed windows.

Careful attention to these rules will go far to remove the not infrequent complaints that are made about ventilation, even though the building does not come up to the standard applicable to newly erected buildings.

See also Appendix VIII., page 138.

<sup>1</sup> See also page 80, 5.—Physical Training.

<sup>4</sup> *Building Regulations*.—See N.U.T. Code, page 245.

*Lighting.*

Where the lighting of a school is not good it is necessary, until improved arrangements can be made, to adapt the time table carefully to meet the difficulties which are found as to certain subjects. Needle-work, especially the working of specimens, writing and drawing should all be so placed in the time table that the work may be done when the light is most favourable. In winter, when the days are short, the time at which these lessons are given may require frequent alteration.

The importance of a suitable colouring of the walls should always be remembered when the school is repainted.

*Heating.*

The temperature of a room used for teaching should be kept, so far as possible, at 60° F. A temperature below 50° F. is too low for young children, and a temperature above 70° F. is unhealthy, and tends to loss of muscular tone and of general energy.

If the school is warmed by open fires or stoves, a dish of water must be placed near the source of heat, in order that the air of the room may be sufficiently moistened. Otherwise the throat, eyes, and mouth become dry, and the work of both teachers and scholars becomes difficult.

*Equipment.*

In the schoolroom there are certain points of equipment which have an important bearing on health. The desks influence the posture and attitude of the children for long periods, and if too large or too small may tend to produce permanent bodily distortion. The more recently equipped schools provide desks of graduated size in order to suit children of different ages, but it is still common to find children—especially girls, who often grow rapidly after ten years of age—sitting at desks many sizes too small. In such cases new desks properly adjusted to the height of the scholars should at once be obtained. Long parallel desks are objectionable.

In many schools the infants are still cooped up in steep, long-desked or even deskless galleries. This practice should be abandoned at the earliest practicable moment, and the gallery should be replaced by suitable desks or chairs placed on the floor.

*Posture.*

Even if the children are suitably seated the teacher ought not to neglect their posture during lessons, more particularly during lessons in which they write or draw. Every lesson in which the children write should begin by securing a correct position, and the direction should be repeated by the teacher if the scholars are found to assume unsuitable attitudes. The correct posture is described in detail in the section on Handwriting in Chapter IX. and is therefore not repeated here.

<sup>1]</sup> When alterations are made in the Time Table, a note should be at once made in the Log Book. See footnote to Article 7 (b), page 20, N.U.T. Code.

<sup>7</sup> Chap. IX., see page 69.

<sup>1</sup> The use of slates is inconsistent with correct posture in writing, and is objectionable on other grounds; it should therefore be discontinued.

<sup>2</sup> In many schools children are still compelled to sit in strained attitudes during some part of the school hours. This practice is highly objectionable, and children should never be required to sit with their arms folded behind their backs or over their chests, or with their hands clasped on their heads.

*Instruction.*

In framing a time-table it is necessary to arrange the subjects of instruction so that the power of endurance of the children is not unduly tried. They will be fresher in the morning than in the <sup>1</sup> afternoon, and at the beginning than at the end of a school meeting. <sup>2</sup> The younger the children the more easily their powers of endurance are over-taxed, especially by lessons in reading and number. These require thought, and fatigue not merely the mind but the body also.

<sup>3</sup> To keep young children alert during the whole day should be one of the leading aims to be kept in view when schemes of work are arranged for them. This will best be achieved by arranging that difficult and easy lessons are given alternately. A few minutes of free exercise with open windows should follow each lesson.

<sup>4</sup> Lessons for young children should be very short, and the intervals of play correspondingly frequent. Infants indeed require constant movement as a condition of a healthy existence. Schools which have halls should make constant use of them for organised play and physical exercises of every kind.

<sup>5</sup> Sewing is not now required before the age of six years. Some authorities on school hygiene claim that girls of fourteen will sew as well if they begin at six as if they begin at four, and that their eyesight will be all the better for the postponement.

<sup>6</sup> A course of instruction in hygiene should form part of the work for the two highest classes of every girls' school. Such instruction will naturally be included in a course of household management; and if that subject is not taken the lessons on common things should include a few lessons applicable to the home circumstances of the scholars, dealing in an absolutely non-technical way with questions of feeding, clothing, rest, air, light, warmth, exercise, cleanliness, and the general care of health. In some cases it will be well to include some instruction on the care of young children. Practical instruction in cookery, laundry work, and housewifery will be of very little value unless it bears some relation to the actual needs of the children in their own homes. Some simple ambulance lessons may also be included in the course.

<sup>7</sup> It is most desirable that every scheme of instruction for older children should include a short series of lessons enjoining temperance as regards the use of alcoholic beverages and stimulants.

<sup>8</sup> Such lessons, like those suggested above on hygiene, need not be grouped under a new separate head of the curriculum, but can be included among the lessons given in elementary science, knowledge of common things, cookery or household management, as may be

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Again, the school may become an important part of the machinery for indicating those children whose cases urgently call for attention from the parent, from a school nurse, or from the medical organisations at the disposal of the general community.

The teachers must, therefore, be able to detect signs of good and bad health.

#### *Signs of Good Health.*

Erect carriage and straight limbs will mark normal children who are in robust health. The head will be well held up, the shoulders thrown back, and the feet will rise smartly in walking or running. The limbs and back will be well covered with flesh, the grip will be firm and sustained, and the whole frame will be full of energy.

The skin of the face will be firm, clean, and free from marks, the eyes will be clear but not unduly bright, the hair will be glossy, and in the case of girls will grow copiously. The lips will be a deep pink, the teeth white and well set, the tongue will be clear, and the mouth will ordinarily be closed and the breathing unimpeded.

The rate of growth will be even and subject to no marked interruption, and the height and weight will be near the average for children of the same sex and age. Boys up to the age of ten will be rather taller than girls, but after that age girls will grow more rapidly for some years.

Healthy children require activity and regular meals during the day and complete rest at night. Up to the age of twelve every child requires at least ten hours of restful sleep out of the twenty-four.

#### *Signs of Poor Health.*

A slouching, scraping walk, a head bent forward, a round back, half bent knees, and semiflexed hips are all signs of a poor muscular build. Provided there is no organic impairment of physique, such children, with good feeding and physical training, will have recovered at the end of their school lives much of the ground lost during infancy.

Thin bony arms with flabby muscles, prominent shoulder blades, wasted calves, an uncertain grip which cannot be long sustained, are all significant indications of poor health. A disinclination to play, or a nervous anxiety to excel in games or lessons, followed by rapid exhaustion, indicate the need for good food and much rest.

Among organic signs the state of the skin will supply much information. A dry, scaly skin with red blotches indicates exposure or lack of food, especially of vegetables; a pale, sallow skin reveals poverty of blood, and is associated with bad food and overcrowding. There is no more significant sign of malnutrition than the condition of the hair. Any girl whose hair is thin, lies flat on the head, looks lifeless and dry, and though never or rarely cut does not fall below the nape of the neck at the age of ten years, is probably below a normal standard in physique.

Neglected children often suffer much during the spring from severe forms of eczema round the mouth, or from other forms of eczema and blight which attack the eyelids. Some of these ailments

are infectious, and may lead to permanent injury of the eyes. The teacher should, therefore, at once note children with reddening or watering eyes and those who complain of pain round the eyelids, and if there is a school nurse or medical officer should at once report such cases.

Decayed teeth are a source not merely of discomfort to the child but of positive danger. They may set up secondary inflammations in the neck in the form of enlarged glands recognised as hard almond-like swellings. These if neglected may lead to intractable abscesses which make school life impossible. Similar trouble may arise from unclean hair or from neglected sore throats.

In infant schools teachers should note the children whose knees remain apart when their feet are placed together. These children have rickets and should stand as little as possible. Abnormally low height, and wrists showing a bony thickening, are also indications of rickets, while a child of nine who appears like a baby of four may be a cretin.

Children who breathe stuffily and do not ordinarily close their mouths may be afflicted with adenoid growths in the throat, and should be examined medically. The result of neglect in such cases may be slow mental and physical progress or even deafness and defective speech.

#### *Defective Children.*

Teachers of infants and younger children should be able to recognise cases of mental deficiency in order that the fitness of such children to attend the ordinary school may be determined. Any child of seven who makes no progress in reading, writing, and number, and any child whose attainments after the first few years are more than two years behind those of average children, is *prima facie* a case for special consideration. Children who exhibit unusual peculiarities of temperament and moral perception, or are deficient in energy, will-power, self-control, memory, or the sense of discipline and response, probably require special treatment which cannot be given in schools for ordinary children.

Cases of deaf mutism are liable to be overlooked. A child who does not speak or interprets by gesture should at once be reported by the teacher for examination, while defects of vision, other than the forms of ophthalmia described above, may so seriously retard a child's progress as to make him unsuitable for education with children of normal sight. Girls who hold their needlework close to their eyes, and children who bend over their books or constrict the eyelids in reading from the blackboard or in looking at wall pictures, should at once have their eyes tested. Those who cannot see well enough even with spectacles to use the reading books of the class, and those whose sight is rapidly failing, may require special education in a school for the blind; and children whose speech is rapidly failing should attend a school for the deaf and dumb.

Speech defects in children of normal mental power may be diminished or cured by care on the part of the teacher. Stammering,

<sup>4</sup> See page 328 of N.U.T. Code for Circular on Defective Children.

for instance, may be decreased if the child is allowed to gain confidence by whispering for a time instead of talking aloud. The clipping of words, the confusion of consonantal sounds, the elision of sounds from the middle of words, and the mispronunciation of vowels are faults which a careful teacher may do much to correct.

1 Stuttering indicates a nervous defect, and care should be taken that these and other nervous children do not overstrain their mental powers when young, while children who are exceptionally bright and excitable should be discouraged from excessive mental effort in their early years. They are otherwise likely to arrive at the age of thirteen or fourteen mentally *hors de combat*. To delay the promotion of such children is desirable in their own interests, and can be made profitable to the children amongst whom they are detained.

#### *Epileptic Children.*

2 Epilepsy is the most pronounced condition of nervous defect. It is recognised by the sudden attack of unconsciousness accompanied by stiffening of the body and by biting the tongue. A child who is thus attacked should always be removed from the class and placed in a comfortable position until he recovers. Serious epilepsy not only greatly impedes the education of the suffering child, but is also very harmful in its effect on the other children, and is therefore incompatible with the instruction of the child in an ordinary school. Constant twitchings of the body, face, limbs, or hands may indicate Chorea or St. Vitus' Dance; children so affected should not attend school unless by doctor's orders, and should always be excluded if their presence is harmful to other children.

#### *Action of the Teacher.*

3 It is suggested that the teacher will do well to have careful regard to the physique of the children in the school. He will thus obtain information which will enable him to procure the removal of those whose presence in the school is beneficial neither to themselves nor to their fellows, and a careful observation of the children who remain in the school will enable the teacher, with the consent of the Local Education Authority, to adopt the most suitable educational programme. He may thus secure such conditions as will best tend to the physical and intellectual well-being of the school.

#### *Other Agencies.*

4 Remedial treatment in cases where children are suffering from parental neglect must largely be left to other agencies than the school staff, though the teacher who takes the trouble to learn the conditions of the home life of the children under his care may do much to humanise and improve the area which supplies his school. In view of the diversity of the causes of deficient physical development in the case of the poorer classes of children in the great towns, and the

1 Children should never be allowed to imitate a stuttering child, nor should a stuttering pupil keep the same seat in class for any length of time, but should be freely moved amongst the other scholars.

2 *Epileptic Children.*—See pages 318 to 336, N.U.T. Edition of the Code, 1905.

3 See Chapter on Refusal of Admission, page 294, N.U.T. Code, 1905.

consequent difficulty of dealing with them, the Board do not at present see their way to do more than suggest certain palliative measures about the propriety of which there can be no dispute.

Neglect of children by their parents arises more often from ignorance and carelessness than from any repudiation of parental duties. In such cases the local managers, in the interests of the children, may constitute themselves a link between the school and the home. If the parents can be induced to visit the school on days set apart for the purpose, their interest may be secured once and for all. They may learn to take pride in their children, and to feel the disgrace of sending them to school dirty, ill-clad, ill-shod, hungry, or overtaxed by home duties. They may be taught that, according to age, a growing child needs at least two ounces of meat daily, and should have new milk in addition.<sup>1</sup> These, with bread, are almost necessities, while fresh vegetables, well cooked, will be a valuable addition to the diet. Having learned this, they may further be induced to practise the self-denial and pay the attention necessary for the provision of this diet for the child. In the poorer parts of many great towns children are often overworked out of school and lack sleep. The local managers, where they can influence the parents, should specially impress upon them that children under twelve ought to have at least ten hours sleep every night.

The Local Education Authorities in the large towns have in many cases retained the services of specially skilled medical officers in order to deal with questions of hygiene. The carrying out of the advice of such officers as to the treatment of ailing children may well be supervised by the managers. The school nurses, who have been appointed in many large centres to visit the poorer schools in order to deal with minor ailments, have done excellent work not merely in treating wounds, burns, and sores due to accident, but also in dealing with ailments arising from the neglect of cleanliness, and they have done a great deal to improve the standard of personal cleanliness among the dirtier children. The value of this work can be considerably enhanced by the co-operation of the managers of the schools.<sup>2</sup>

<sup>1</sup> *Home Influence*.—See also pages 8, 2 and 186, 6.

<sup>1</sup> See also Appendix VIII., page 186.

<sup>2</sup> *The Doctor*.—See also Appendix VIII. (h), page 149.

## APPENDIX I.

*Specimen Schemes of Arithmetic Teaching.*

## SCHEME No. 1.

This scheme is drawn up for a school containing five classes. Of these the highest may be subdivided, whilst the necessities of the school are supposed to render it advisable (1) to divide five years' work among four classes of approximately equal size, (2) to reclassify to some extent in the intermediate half years. It will be found that no special teaching is necessitated by this reclassification.

## CLASS V.

## First half year.

Revision of infant work.

Easy problems on numbers such as 4, 10, 12, 16, 20, 24, 30, 36, 40, 60.  
Rapid counting by intervals less than 11.

Notation of numbers less than 60, e.g. 34 contains 34 ones, or 3 tens and 4 ones, or wants 6 ones to make 4 tens.

Addition and subtraction of two numbers, or of two sums of money so that no number greater than 60, and no sum of money greater than 5s. (no farthings), is employed.

## 2 Comparison and estimation of lengths.

## Second half year.

The first half year's work repeated and extended so that the largest number employed is 99, and the largest sum of money employed is less than £5 (no farthings).

Comparison and estimation of lengths with greater accuracy, and the ruling of lines of given length.

N.B.—So far the written work should be confined to setting down sums that can be worked mentally.

## CLASS IV.

## First half year.

## 3 Rapid counting backwards and forwards by intervals less than 13.

Addition and subtraction of pairs of numbers both of which are less than 100.

The extension of numeration, notation, the analysis of number, and of addition and subtraction so that the largest number employed is 999, and the largest sum of money is less than £5, farthings to be included.

Experimental construction of the multiplication table.

Commutative law, e.g.  $6 \times 5 = 5 \times 6$ .

Short multiplication and division by numbers not greater than 6.

Measurements of books, desks, etc., in inches and parts of an inch.

## Second half year.

The work of the first half year repeated and extended. The limits being the same except that the money sums are extended to £10, the multipliers and divisors to 12.

4 Similar sums dealing with complete groups of tens, e.g.  $320 \div 8$ ?  $200 \div 60$ ?  $40 \times 8$ ? How many days in twenty weeks?

Multiplication and division by factors whose product is not greater than 20.

Simple problems based on the measurement of books, etc., e.g.: How far would nine books placed in a line extend?

Measurements extended so as to form a practical introduction to fractions with the denominators specified for Class II., 1st half year.

1 For notes on the teaching of Arithmetic, see page 41.

1 Schemes.—See also pages 44, 6; 46.

2 Arithmetic for Infants.—See pages 24, 2; 41, 1.

## CLASS III.

First half year.

Recapitulation and extension of the previous work to numbers less than 10,000, multiplication and division by numbers that can be broken up into factors less than 13. Also applications to the measures of length and time with the corresponding experimental treatment.

Addition and subtraction of the fractions with uniform denominators that are illustrated by the rulers, i.e. 2, 4, 8. (These may also be advantageously illustrated by paper folding and tearing.)

- 1 Decimals with tenths only.

Factors.

Properties of numbers, such as odd and even, prime and composite.

Practical work.

Second half year.

Repetition of the above and extension so as to include measures of weight and capacity, with the additional denominators 3, 6, 12, 5, 10.

Multiplication and division of fractions and decimals, including hundredths, but otherwise within the limits specified above.

Construction of square and cubic measures, with blocks, squared paper, etc.

## CLASS II.

First half year.

Recapitulation and extension of previous work with multiplication and division of fractions and decimals.

Application of factors to H.C.F., L.C.M., and square root.

- 2 Unitary method of proportion.

Long multiplication and division.

Practical work based on the syllabus selected for Class I.

Second half year.

Work of previous half year repeated and extended.

Short methods depending on fractions such as Practice (the latter process not to be applied to complicated sums).

Unitary method of proportion with algebraic symbols.

Practical and other work based on the syllabus selected for Class I., e.g. plans, curves showing variation in attendance and prices, etc.

## CLASS I.

The work of this class will depend on the circumstances of the school and the abilities of the staff. Probably it will consist partly of geometry, algebra, and selections from the following:

Mensuration of plane and curved surfaces and of solids, e.g. school rooms, height of school, piping, buckets, tanks, haystacks, heaps of stones, balls.

Practical mensuration as used by joiners, plumbers, upholsterers, paper hangers, i.e., making allowance for waste, etc.

- 3 Charts and curves on squared paper and the deduction of areas and averages.

Rapid ciphering to secure speed and accuracy.

Solution of problems by graphic methods.

Interest and percentages. Depreciation.

Stocks and shares.

Decimalisation of money at sight.

Accurate square and cube root.

Approximations.

Arithmetical and geometrical progressions.

Use of logarithms.

Horner's method.

3 Practical Work.—See note on Handicraft, page 85.

Recurring decimals.  
Compound interest.

N.B.—The practical work should depend largely on the method of Hand and Eye Training adopted in the school, but should be preparatory to, and concurrent with, written calculations. In the higher classes the children may construct simple apparatus with advantage.

### SCHEME No. II.

- 1 It is supposed that the bulk of the children will be promoted at the end of every year, but that there will also be promotion of a fair number of bright children at the end of every term.

#### FIRST YEAR.

First term.

The four simple rules and their application to shillings and pence, so that no number greater than 30, and no sum of money greater than 2s. 6d., is employed. The addition sums to consist of not more than two lines.

Construction of tables within the above limits.

Shopping, and the actual measurement of length in inches and tenths.

- 2 Second term.

Recapitulation of the above with the limits 60 and 5s.

Practical work extended to include ruling of lines of given length.

Third term.

Recapitulation of the above with the limits 99 and 5s.

Practical work as before.

#### SECOND YEAR.

First term.

Recapitulation and the extension of money sums so as to include sums less than £1 without farthings.

Construction of tables.

Practical work extended to include halves, quarters, and eighths of an inch.

- 3 Second term.

Recapitulation and extension to numbers less than 1000.

Multiplication of shillings and pence by numbers not greater than 6 so that no sum of money greater than £1 is employed.

Estimation of lengths in addition to ruling and measuring.

Third term.

Recapitulation and extension of the above so as to include sums of money less than £10, and also multipliers and dividers not greater than 12.

Estimation of lengths continued. Division of paper into halves, quarters, eighths.

#### THIRD YEAR.

First term.

Recapitulation and extension of previous work so as not to include numbers greater than 9999.

Multiplication and division by numbers that are reducible to factors not greater than 12.

Measurements of lines in inches and fractions of an inch.

Addition and subtraction of inches and tenths of an inch.

Practical use of weights and measures.

- 4 Other practical work suggested by the scheme of Hand and Eye training.

Second term.

Recapitulation and extension of previous work so as to include sums of money not greater than £100 (without farthings).

Practical work as before with the addition of centimetres and millimetres.

## Third term.

Recapitulation and extension of the above to farthings.

Decimals (tenths only).

Fractions with the denominators deducible from the rulers, i.e. 2, 4, 8; 3, 6, 12; 5, 10.

Mental multiplication and division by 10 and 100.

Practical work as before.

## FOURTH YEAR.

## First term.

Recapitulation and extension of the above, with applications to the measures of length and time.

Properties of numbers, such as odd and even, prime and composite.

Practical work to include construction of square foot, cubic centimetre, etc.

## Second term.

1 Recapitulation and extension of the above including applications to the measures of capacity and weight.

Prime factors and their application to finding H.C.F., L.C.M.

Practical work extended.

## Third term.

Recapitulation and extension of the above.

Easy long multiplication and division.

Practical work extended.

## FIFTH YEAR.

## First term.

Long multiplication and division.

Decimal fractions.

Practical work including plans of rectilinear surfaces on squared paper, and their mensuration.

## Second term.

2 Recapitulation.

Vulgar fractions.

Easy percentages such as the interest on Post Office Savings Bank deposits.

Curves on squared paper, such as attendance, height of barometer.

Practical work including plans of surfaces and their mensuration.

## Third term.

Recapitulation.

Practice.

Proportion by the method of unity.

Practical work extended.

## SIXTH AND SEVENTH YEARS.

The work will depend on the circumstances of the school and on the staff. Probably it will consist partly of geometry, algebra, and selections from the list given under the heading of Class I. in Scheme No. 1.

N.B.—The practical work should depend largely on the method of Hand and Eye training adopted, but should be preparatory to, and concurrent with, written calculations. In the higher classes the children may construct simple apparatus with advantage.

## SCHEME III.

## FIRST YEAR.

## Introductory.

## First Period.

3 (Without notation or any ciphering abbreviations; e.g. the 4 in 43 must always be spoken of as forty or four tens, never as four.)

(i.) Numeration, as far as one hundred.

- (ii.) Relations to each other of the ten primary numbers; these comprise:
  - (a) The different ways in which each of them may be made up of any two which come before it.
  - (b) Those of the Multiplication Tables.
- (iii.) Use of (a) to tell the sum or difference of two numbers, one of which is a primary.
- (iv.) Addition and subtraction of two composite numbers.
- (v.) Continued practice in making up the Tables, using what has already been remembered.

#### Second Period.

- (i.) Continuation of above; increased speed to be looked for in additions and subtractions, especially in (iii.) above. Counting and other practice with *round* numbers up to a few tens beyond one hundred.
- (ii.) Notation, and suitable exercises from what precedes to be done in writing.
- (iii.) Application of the foregoing to simple practical calculations (money, length, and height, omitting fractional values such as *farthings*).  
Nomenclature, none.

### SECOND YEAR.

Chiefly experimental practice, oral and written, all operations without ciphering abbreviations.

#### First Period.

- (a) Recapitulation.
- (b) Practical calculations as before, occasionally with two steps.
- (c) Introductory and experimental.
  - (i.) Extension of numeration to a thousand.  
(A few hundreds will be sufficient for all the *practice* necessary in this period.)
  - (ii.) Continued practice with Tables, looking for the results to be remembered, especially the first few multiples of 12.
  - (iii.) Conversion of numbers expressed in tens to hundreds, and *vice versa*.
- 1 (iv.) Simple multiplication and division, i.e. performing calculations similar to those of the Tables with numbers outside the range of the Tables.  
(The two forms of division to be kept separate until the children have had experience enough to recognise their identity when the working is set down in figures.)

#### Second Period.

- (i.) Continuation of above.
- (ii.) Visual demonstration of the principle  $a \times b = b \times a$ , and its use especially for reckoning ten, twenty, or a hundred times a number.
- (iii.) Easy exercises introductory to long division, such as number of thirties or twenty-eights in 200.
- (iv.) Practical exercises in the four rules with simple numbers.
- (d) Ciphering.—Additions, subtractions, and multiplications.  
Nomenclature.—Add, subtract, multiply, and unit, if required.

### THIRD YEAR.

#### First Period.

- (a) Recapitulation; all previous exercises to be frequently repeated at full length, i.e., without technical nomenclature or ciphering abbreviations.
- 2 (b) Practical examples as before with larger, but in the main round, numbers.
- (c) Preparatory and experimental.
  - (i.) Leading to the long rules.
  - (ii.) Easy examples of repeated multiplications and divisions, with numbers and money.

(iii.) Written form of the four rules, numbers and money, multipliers and divisors as a rule of not less than two figures.

(iv.) The Standard Units; pound sterling and avoirdupois, day, year, yard.

#### Second Period.

(v.) Sub-multiples of these, attention being called to their insufficiency for the general purpose of measurement.

(vi.) Experimental practice in measurement (length and value) with fractional remainders as  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{1}{6}$ ,  $\frac{1}{8}$ ,  $\frac{1}{10}$ ,  $\frac{2}{3}$ ,  $\frac{3}{4}$ , fractional notation being withheld at first.

(vii.) Easy additions, etc., of such fractions, e.g.  $\frac{1}{2}d. + \frac{1}{4}d.$ ,  $1\frac{1}{2}$  in.  $+ 1\frac{1}{4}$  in., half of  $\frac{3}{4}d.$ ,  $\frac{1}{2}$  in.  $+ \frac{1}{6}$  in.,  $\frac{2}{3}$  in.  $\times 5$ .

(viii.) Reductions, to be worked visually without ciphering (e.g. 17 sh. = 17 times 12 pence or 12 times 17d.).

(ix.) Simple examples of factorial reductions, e.g. 27 times 8d., 75 times 16, 9 times 16 in., 90 lbs.  $\times 7$ .

(d) Ciphering, practise simple and compound rules and reductions.

Nomenclature.—Previous terms, *divide*, and words like *third* in the sense of the *third* part.

#### FOURTH YEAR.

(a) Recapitulation as before; simple explanations of suitable matters to be asked for in writing.

(b) Practical exercises rather more searching from a manual and from blackboard.

(c) Preparatory and experimental:—

(i.) Further practice in reduction, showing the *form* of the rules.

(ii.) Further practice in repeated multiplications and divisions, and factorial reductions.

(Children being shown the advantage to be derived from these by examples.)

(iii.) Return to general problem of measurement; expression of the size of fractional remainder when a common measure is obtainable.

(iv.) Conversion of fractional quantities into others of lower denomination (oral demonstration only).

(v.) Easy additions, etc., of fractional quantities.

(vi.) Tables of Weights and Measures, *capacity*, *right angle*, *degrees*.

(vii.) Further development of the long rules.

(d) Ciphering. All previous rules, reduction, with some practice in factorial multiplication and reductions.

Nomenclature, as before; terms relating to fractions (as *numerator*, *denominator*, *common measure*, *same name*) to be withheld, and use of abstract fractional numbers to be avoided.

#### FIFTH YEAR.

##### First Period.

(a) Recapitulation as before

(b) Practical exercises in what precedes from a graduated collection and the blackboard.

(c) (i.) Further discussion of fractions with examples of their use in the same way as whole numbers for expressing relative magnitude, e.g.  $30=2\frac{1}{2}$  times 12,  $20=1\frac{1}{2}$  times 12,  $2\frac{1}{2}$  times what = 100?, etc.

(ii.) Notation of fractions.

(iii.) Conversion of a fraction to an equivalent one with any given denominator (by rational process rather than by rule, e.g.  $\frac{3}{5}=\frac{6}{10}$  of twenty twentieths), occasional examples with fractional numeration

(e.g.  $\frac{3}{10}=\frac{15}{50}$ ) may assist rather than perplex the class.

(iv.) Practice in making up the four rules for fractional numbers: (L.C.D., where required, by inspection); the two purposes of division to be treated separately. Special attention is recommended to the case which provides the rule for finding  $x$  from the *datum* times  $nx=A$ .

##### Second Period.

(v.) Calculation of values, amounts, etc., which may be expressed

by simple fractional numbers in terms of quantities for which rates are given, e.g. 40 cwt. at 5s. for 12 cwt. (commonly called "proportion" sums).

(vi.) Easy calculations in the same way involving shop discounts at so much in the shilling, rates and taxes at so many shillings in the £, interest and discount at so much per £100, profits and losses expressed as simple fractions of the outlay.

(vii.) The principle of practice:—

(a) Short division preferable to compound multiplications, division by 12, etc.

(b) Cost of  $n$  things at  $\frac{1}{3}$  of  $xs = \frac{1}{3}$  of cost at  $xs$ .

(d) Ciphering practice: all previous rules including simple fractions, bills of parcels, and practice.

### SIXTH YEAR.

#### First Period.

(a) Recapitulation; increased use of questions to be answered in writing.

(b) Practice as before.

(c) (i.) (a) Rules for G.C.M. and L.C.M., whole and fractional numbers.

(b) General form of the rules for multiplication and division with fractional numbers.

(ii.) Square measure and cubic measure.

(iii.) Practice in setting out the work of weight and measure problems with algebraical symbols.

(iv.) The same where the quantities involved are fractional numbers.

(v.) Purpose and meaning of the term per cent.; 3 per cent. of a quantity defined to mean three-hundredths of it, and to find what per cent. a quantity A is of another B, we must find how many hundredths of B there are in A.

(vi.) Calculations involving per centage, profit and loss, attendances, strengths of mixtures, interest, etc., to be worked by fractional rules.

#### Second Period.

(vii.) Further consideration of problem of measurement; failure of method of vulgar fractions to meet the general case; decimal system of expressing fractional quantities and its advantages.

(viii.) As a new system of numeration (cf. 5th year (c) (i.) above).

(A still further extended system will be propounded when Algebra is begun shortly.)

(ix.) Construction and practice of the fundamental rules with decimal fractions.

(d) Ciphering: all previous rules, etc., processes, and elementary algebra, notation, further extension of numeration to negative values, etc., etc.

### SEVENTH YEAR.

(a) and (b) as before, practice now largely preponderating.

2 (c) (i.) Banking and investments; explanation of terms and procedure; examples involving stocks and discounting of bills.

(ii.) Limitations of decimal system as described; recurring periods.

(iii.) Square root; explanation of rule and exercises.

## APPENDIX II.

*Classified Lists of Topics for Observation Lessons, Nature Study, and the Rudiments of Elementary Science.*

N.B.—What is obvious is often least observed and understood; simple objects of every-day occurrence may be most usefully observed under the guidance of the teacher. Actual objects must always be used in school, but many observation lessons can only be given out of school. In some cases observation out of school could be correlated with the lessons on actual objects in the school.

In many other cases observation out of school must be a preliminary to lessons in the school, e.g., before lessons on sugar, coffee, etc., are given children should have looked carefully at the window of the grocer's shop, and come to school ready to describe all the objects in it. They should observe at home the groceries bought by their own mothers and describe them at school when they receive a lesson on such things.

Similarly, before a lesson is given on a letter, the child should observe out of school the post office, the pillar box, the postman's uniform, and that of the telegraph boy, and describe them to the last button. They should find out how often and at what times the postman delivers letters, and whether he goes on foot or on a bicycle. The telegram with its specially coloured envelope can be contrasted with the letter, and the reason for the contrast should be discovered; the telegraph wires, insulators, etc., should be observed by the scholars before a lesson is given. Children should be led to think of the reasons for the form of the objects studied when these are manufactured articles.

The policeman is not to be observed in a picture in school, but from life outside the school. The town child knows him as the regulator of traffic, the country child as a patrol of lanes; both will know his function as thief-taker, and can observe his uniform, his helmet, his truncheon.

The cat or the dog may be observed almost as well in school as out, but most animals should be observed by the scholars in the streets or in the fields or farmyards, and never in a picture. In the country the children will often know better than the teacher the habits, the food at various seasons, and other particulars about the various animals found on the farm. The colours and sizes of the horses and cows which have been seen by the children can be compared; a picture often gives a wrong impression as to size and probably shows animals of one colour only.

Horses can be observed in their various uses outside the school, and children should learn by observation the different sizes and shapes of the dray horse, the riding horse, the carriage horse, and the tradesman's pony; they can see for themselves the fashions in mane and tail and the variations in colour.

## (1)—THE SCHOOL BUILDING.

The rooms.—Their shape, size, etc., to be ascertained by children's measurements. Out of school observations of the rooms in the children's homes to be demanded for comparison and contrast. The materials used in constructing walls and roofs.

Bricks.—Their size and shape to be measured by the children; their arrangement, e.g., in an arch as compared with a 14-inch and a 9-inch wall (show with real bricks or small wooden ones), mortar, etc. If any brickworks are near, the manufacture should be observed by the children.

Common stones used in building and paving.

Doors.—Position, why panelled; sizes of several to be measured by the children, reasons for stock sizes; fastenings; construction of locks, how a key works.

For notes on Observation Lessons see page 48.

For notes on Nature Study see page 50.

For notes on Elementary Science see page 55.

For syllabus of Elementary Rural Science, see page 153.

The lighting.—Windows, position, sizes to be measured and compared.

- 1 How the glass is fixed. Where the desks are placed in relation to windows and why.

Gas.—Observe the flame of burning coal. The teacher can make coal gas before the class. Where the gas that is burnt in the school is made.

- 2 Trace the course of the gas pipes as far as possible; explain the gas meter. Other lights, petroleum and paraffin, simpler properties and uses. Lamps.

- 3 Methods of heating.—Fires; use of chimneys; hot water pipes.

Ventilators.—The scholars should observe the means of ventilation, doors, windows, Tobin's tubes, gratings, etc. Measure the space per child of fixed inlet and outlet ventilation.

- 4 Desks.—Materials; colour; whether varnished and why; shape, the reason for it; size to be measured by the children and compared with the height of the teacher's chair and table.

Books.—Materials; size; shape; how covered; reasons for differences between reading books, exercise books, copybooks, reference books such as dictionaries, pocket books, prizes. Type, compare with newspaper type.

- 5 The school pictures.—These may be used as objects in which the children observe every detail. They will, however, be more frequently used for conversation or descriptive lessons.

6 Miscellaneous school objects.—The ink wells, material, whether glazed, if so, why; shape. Ink. The bucket, coal scuttle, grate, cupboard, the pencils, pens, chalk, coal, matches, etc.

- 7 The playground.—Size, shape, methods of paving (compare with street pavement).

### (2)—OUR BODIES, CLOTHES, AND FOOD.

Hands.—Each child to trace round his own, measure the length of the fingers; the difference between the setting of the thumb and fingers, what this enables us to do with our hands; the number of joints; the wrist; the nails; the skin; marks on hands, finger prints; sinews and veins when visible.

- 8 Eyes.—The parts, colour, shape; eyelids; tears; what happens when we blink. Illustrate the structure by means of a camera lens. Testing sight may be part of the lesson.

9 The senses.—Hearing, touch, sight, smell, etc. Compare their varying acuteness in different children (e.g., by simple tests of sight and hearing), compare the sensitiveness to touch of the tongue, the palm of the hand, the back of the hand.

Clothing.—Compare the texture and material of flannel, calico, and other fabric; the difference in feel between wool and cotton; threads pulled; experiments as to porosity and warmth where possible. Form of garments, tight and loose clothes; what would be the result of wearing insufficient clothing. Boots, shoes (and clogs in places where these are worn), compare forms and sizes with those of the teacher.

- Food and drink.—The kinds suitable at different ages, relative weights of equivalent quantities of different foods. These lessons should lead in the upper classes to simple lessons on the practical rules of health. Technical terms, explanations of physiological processes, and descriptions of the internal organs should never be introduced into such lessons.

Common fruits sold in streets or shops.—Apples, pears, cocoanuts, oranges, lemons, strawberries.

- 15 Things from the grocer's.—Tea, coffee, sugar, currants, and raisins, flour, bread, cheese.

Things from the dairy.—Milk, butter, eggs.

The fishmonger's shop.—Different kinds of fish (according to locality).

### (3)—THE PLACE WHERE WE LIVE (OUT OF SCHOOL OBSERVATION).

- 16 The main roads.—Whither they lead.

The Post Office.—Postman, letters, the telegraph boy, a telegram, the

telegraph wires, whither they go. The pillar box, times of collection and delivery.

The police station.—A policeman.

The Town Hall.

The carrier.—What he brings into the place, what he takes out of it.

The railway station.—The porter, the signal box. The goods station, what goods come into the place and whence; what go out and whither they go.

The omnibus and tramcar.—What routes they follow.

#### (4)—COMMON LIVING THINGS (ANIMALS).

(To be observed by the scholars in the school at the time of the lesson, or outside the school before a lesson is given, according to circumstances.)

A cat.—A cat and a kitten can be brought into school.

Size, covering, colours to be noted by the scholars. The tail, how carried, movement of a cat. The feet, how does a cat climb a tree? What helps a cat to move quietly, how a cat holds things, what happens if a thing held by a cat is pulled away from it. Shape of the head, of the mouth, size of the teeth and claws compared; which are most useful to a cat if attacked, the feet or the mouth. The tongue, how a cat drinks, how it cleans itself. What cats live on. The eyes, what they are like in bright sunlight, on a dull day, after dark.

A dog.—Sizes of different kinds, covering, colours, how the tail is carried. Movement of dogs. The feet, why a dog cannot climb trees, why it moves less quietly than a cat. Can a dog hold things with its feet, the reason.

2 Shape of the head, of the mouth, size of teeth and claws compared; how a dog attacks or defends itself. The tongue, how a dog drinks, can a dog clean itself. What dogs eat. The eyes. The voice of dogs. Qualities of dogs. Why dogs are useful to men. A sheep dog, what it can do.

3 A horse.—Different kinds and their sizes. Colours, manes, tails, the use of the tail to a horse and to men. The various ways in which horses move.

3 The feet of a horse; what horses wear; why. The uses of horses. What they eat. Qualities of horses.

A cow.—Size, covering, colours, the tail, its use to the cow. The head.

4 The feet of a cow. What cows are used for. What makes them unsuitable for being used like horses. The way a cow eats; what it eats. How could a cow defend itself if attacked. Habits of cows.

5 A sheep.—Size, covering, tail; the feet of a sheep. The food of sheep; their uses to men. Shearing. How sheep attack one another.

Birds.—A bird kept in a cage may be studied in school, other birds should be observed out of school.

Covering of birds. Shape of head, how birds eat, what they eat. Ears of birds. Flying. Characteristics of flight of sparrow, swallow, pigeon, etc., and other birds. Walking, differences between fowls, pigeons, sparrows, etc., the feet and legs of birds. The eyes of birds. Song birds, the blackbird, thrush, skylark, etc., the appearance and different kinds of songs. Habits of different local birds. Birds' nests, what they are made of. Do we see sparrows, swallows, blackbirds, thrushes, rooks, etc., in the winter.

Fish.—A bowl of gold fish may be kept in the school.

7 Sizes of various kinds, colours, coverings. Shape, structure to be observed by children at home after eating fish and noting the bony framework. How fishes move. The opening and shutting of the mouth of a living fish in water; the gills.

8 Ants.—A section of an anthill mounted between two plates of glass can be purchased for a few shillings, or better still the teacher can make observation nests of ants from old negative glasses, pieces of wood and wax or binding tape.

The life history and habits of ants can be studied by the scholars.

#### (5)—MEASURING, WEIGHING, AND HEATING.

9 A two-foot rule.

Measurements of length—first by eye, then with rule.

Easy measurements of a square—first by eye, then with rule.

Easy measurements of rectangles.

The wire-gauge.

Callipers.

Scales and weights. Steelyard balance. Weighing machine.

Weighing of common objects—first by hand, then with scales.

Measuring time—a clock (show the works), a watch, the use of the pendulum.

Plumb-line.

Spirit-level.

Steam—observations on boiling water, condensation of steam, etc.

Mercury—weight of; cf. drop of mercury and drop of water; effect of heat on mercury.

Alcohol—effect of heat on it; its evaporation.

Thermometer—its manufacture.

Thermometer—uses; readings in ice, in boiling water, under the tongue, in schoolroom.

A barometer.

A candle—its composition; the wick. A lamp.

Candle under bell-jar over water; candle in narrow-necked bottle.

Chalk—what is it?

Chalk—obtaining quicklime by heating it; lime-water.

Sugar heated in test-tube; wood heated in test-tube.

Sulphur heated in test-tube; lead heated in test-tube.

#### (6)—SCIENCE OF COMMON THINGS.

Water.—How carried. Wells, pipes, taps, fountains, canals. Things that float, things that sink, rafts, boats, anchors. Syphons, pumps.

Air.—Bubbles, pouring water through a funnel into a bottle. A burning candle. Fans, blowing feathers. Paper windmills. The chimney, draughts, Waves and breakers. Shuttlecock, arrow, kite. The pop-gun, the fire engine.

Winds.—A sailing ship. A pump, a syringe. A bicycle valve. A speaking tube.

Solids.—Hard, soft. Files, hammer and nails. Sand paper. Pins, needles, awl, gimlet, hook and eye. Hinges, tires, axles. The grindstone, screws, and screw drivers.

Powders.—Flour, chalk, pencils, blacklead.

Pastes.—Paste, clay, putty, mud in streets, brickmaking, pottery.

Porous solids.—Bread, sponge, brick, chalk. Blotting paper, towels, wicks, earth, springs. A filter.

<sup>1</sup> Solids that dissolve.—Salt, sugar, manufacture of sugar. Crystals, hard water, varnish.

Things that stretch.—Elastic bands, a football.

Things that bend.—Bow and arrows. Cord, rope. Cart springs, paper clips, spider's webs. Clock springs. Chains.

Things that melt.—Butter, tallow, sealing wax, snow, ice. Candle-making. Icicles. Lead, iron.

Forms of strength.—The floor, joists and boards. Wooden steps and stairs. The ceiling, the arch. Ladders. The roof.

Machines.—A lever (illustrate by poker). Pulleys. A knife (compare pocket-knife, table-knife). A pair of scissors. Garden roller. Perambulator. Hoop. Fly-wheel of sewing machine. Mangle. Bicycle, the chain. The loom.

Sounds.—Drum, tin whistle, sounds from stretched cords. A bell, harmonicon, musical box. The school piano.

Movements.—Walking, running, leaping, creeping, crawling, swimming, flying.

#### (7)—THE SKY.

<sup>2</sup> Sunrise, noon, and sunset. (Note the object over which the sun is seen to rise from month to month. Note sun's position at noon, and its varying height above horizon.)

Shadow. (Note by aid of a spike erect on a flat disc the varying length

of the shadow at noon. Study the shadows of objects. Variation in sharpness and depth.)

Moon. (Note the changes. Draw the shape from week to week.)

A few of the brightest constellations. (Make diagrams on square ruled paper from a study of the Sky itself. Great Bear and Pole Star; Lyre and Vega; Cassiopeia.)

Planets. (Note any planet visible when the lesson is given. Mark its position on square ruled paper for a few weeks.)

Varying length of day and night.

#### (8)—THE AIR.

Wind. Varying direction. (Note and keep record of the direction of the wind from day to day.)

Warmer and colder winds; rainy and dry winds.

Moisture in the air shown by seaweed; string (changing tension).

Wet cloth dries in the wind (water turns to vapour).

Vapour turns to water. (Breathing on window. Clouds on hills. Evening mists.)

Clouds in the sky. Three chief kinds, "heaps," "beds," "feathers."

Rain. (Note size of drops by allowing raindrops to fall into flour or dust forming little balls. Note effect of rain in tearing up roads. Note the channels so made, and the arrangement of the sand and pebbles washed to a distance.)

Rainbow. (Note the succession of colours. Note position of sun behind observer and of the bow where the shower of rain is falling. Note that height of arch changes. When is it higher, and when lower?)

1 Rainbow colours on shells, film of tar, etc. Feathers of birds.

Dew. (Note when formed. Cloudless weather. On what does it lie thickest?)

Hoar frost.

Snow. (Note size of flakes. Movement of flakes in the air as they fall. Snowdrift. Snow squeezed into ice.)

Hail. (Note when it falls. Examine hailstones. Is the hail accompanied by thunder?)

Thunder and lightning.

Simple experiments on burning and rusting.

Air, a mixture of two gases.

#### (9)—THE SURFACE OF THE LAND.

Level or sloping. Simple way of measuring slope. Height of school and neighbouring hill-tops above sea level.

Flow of water over the land. Neighbouring stream or streams. Water-partings.

The river basin in which the school is situated.

Construct a model fountain and make simple observations on the pressure of water. Milldam. A "head" of water. Notion of falling water as a motor.

Soils. Clay, sand, slate, granite, chalk, quarries near school, gravel pits, clay pits, brick works. (Note how the rocks lie, in layers or in masses without structure.)

2 Stones in the brook, water worn; pebbles on beach, rounded; pebbles in gravel pit often with sharp edges, perhaps iceborne.

Difference between sand and mud. Crumbling rocks. Effect of frost on damp rocks.

Caves by the sea formed by the waves; caves inland formed by rain dissolving limestone; stalactites. (A lesson for schools in limestone regions or near rocky coasts.)

Building stone, marble, slate, bath stone, sandstone, etc.

In limestone, note shells, etc. Note plants in coal.

Volcanic rocks, according to the nature of the district.

Rock salt; crystals of salt. Salt in sea water. Mineral in solution.

Hard and soft water. Rain water compared with streams from chalk

or limestone; leavings after evaporation. Fur in kettles. Softening hard water.

(In certain districts) Minerals in solution, sulphur wells, iron springs, medicinal waters.

Mortar and cement. (Slake lime and make mortar; note the heat, etc.) Surface soils. Crumbled rocks. Waterborne sand and mud. Vegetable mould and earth-worms.

Vegetation and cultivation. Forest, moor, and heath. Heathers.

Hedgerow, trees, elms, ashes.

Trees of the forest, oak, beech, birch.

Evergreen trees, pines and firs.

Evergreen plants and shrubs, holly, ivy, box. Contrast evergreen and deciduous leaves. (Note changes at fall of leaf. Autumn tints. Press specimens.)

Riverside trees, willows, poplars, aspens.

Hill pastures and meadows. Turf on the downs and hay in the valleys.

Collection of grasses from downs, meadows, hedgerows, and cultivated land.

Gardens and their contents. Garden fruits and wild fruits. Garden flowers and wild flowers.

Tillage crops. Dates of ploughing, sowing, reaping, harvesting, etc. Compare dates year by year.

Collection of weeds from cultivated land. Note different weeds in different kinds of soil.

The farmer's tools; plough, harrow, drill, etc.; watch the work done by each.

#### (10)—WATER.

Standing water; ponds; pond life.

Springs and running water. Clear water looks shallower than it is. Simple experiments in illustration.

Study of flow of a stream. Where the flow is quicker (a) in the middle; (b) on one side, outer and inner bend. Where the bank is eaten away and where sand is spread out. Varying bottom; deep pools, shallows, sand banks. Confluence of tributary. Delta. Measure the speed at which the water flows.

Study of seashore. Rocky and sandy coasts. Soundings. The rise and fall of the tide. Currents. Drifting sand. Effect of frost on cliffs. Breakwaters. Layers of soil and rock exposed down the side of a cliff.

Measure with thermometer the temperature (a) of a spring; (b) a stream; (c) a pond; (d) the sea (if possible).

Ice. Study hardness, mode of fracture; splitting blocks with a needle. Does it sink or swim in water? Easy to make two surfaces of ice freeze together. Simple experiments with ice.

1 Watch and record behaviour of thermometer plunged in melting ice.

Melt some ice carefully to find out whether it takes up more or less room than the water into which it changes. (Force a mass of ice into a lump of clay, and let it melt there.)

Freeze some water in a bottle and note bursting of bottle. Bursting of pipes.

Notes on expansion and contraction of substances illustrated by behaviour of water at different temperatures. Preliminary notion of thermometer.

Watch cold spring water being heated to boiling point in transparent glass vessel. Note bubbles of air given off, and as the water is heated bubbles of steam rising from below. Observe force of compressed steam. Preliminary notion of steam engine.

Dribble powdered alum into rain water. Hang thread in a supersaturated solution and note the formation of crystal. Alum and other crystals.

Expose to the air crystals of (1) salt; (2) soda. Note change. What difference? What difference according to weather? Expose to the air crystals of saltpetre, and note result.

Dribble salt into clear water and note that it dissolves, quicker at first,

then slower, at last no more is dissolved. Place a fresh egg in saturated solution and afterwards transfer it to clear water.

One liquid is denser than another. Compare water and mercury. Things which float in mercury and sink in water.

Upward pressure of water on bodies dropped into it. Why bodies sink or float. Why steel ships float. Why cork floats.

Simple experiments in displacement of water.

Simple experiments in pressure of water and pressure of air. Syphon. Squirt. Pump. Diving bell.

Distillation of water. Filtration.

Water; formed when fuels burn. Simple experiments on its composition.

#### (11)—THE STUDY OF PLANTS AS GROWING THINGS.

Grow an onion, hyacinth, etc., in bottles of water and note appearance of roots and stems. Make a model in clay of the various stages of growth at short intervals.

Grow mustard seed on damp flannel and note stages of growth.

Notice a few roots. Grow an acorn or horse chestnut in damp sawdust.

The carrot. Cut off the top of one and grow it in a saucer of water. Contrast the root of a daisy (fibrous).

Plants which walk. Strawberry or strawberry.

Violet.

Contrast Iris and Solomon's Seal in their modes of extension.

1 Stem. Count the rings in a trunk that has been felled. Rings, how produced; estimate age of tree; the record of wet or dry seasons.

Climbing stems. Ivy. Train bindweed up a stick and note that it turns to the right. If you unwind it and force it the other way (to the left) note how it resumes its old direction again, holding the stick with one of its leaf stalks to get a purchase for the change.

Simple experiments to show effect of light on (1) leaves and (2) roots. Celery; blanching.

Leaves of deciduous trees contrasted with leaves of evergreens. Contrast leaves of holly, ivy, and box with leaves of oak, elm, and beech.

Note autumn tints. Collect and press leaves of various colours in autumn.

#### (12)—BUDS, BLOSSOMS, FRUITS, SEEDS, AND LEAVES.

Buds. Leaf buds and flower buds.

Parts of a flower.

Flowers of particular shape.

Pea blossom.

Insects and flowers.

Colours of flowers and insects.

2 Fruits. How seeds are scattered.

Shooting seeds.

Flying seeds.

Contrast certain flowers, e.g. primrose; compound flower (daisy); water-lily.

Leaves. Shape, veining, arrangement.

Flowers as supplying (1) weather-glass, (2) clock, (3) calendar.

Examine celery plant. Cut leaf-stalks into thin sections to see how a plant is built up.

#### (13) HOW PLANTS ARE ADAPTED TO THEIR SURROUNDINGS.

A bunch of spring flowers (according to time of year).

A bunch of summer flowers      "      "      "

A bunch of autumn flowers      "      "      "

3 Flowers and the soil. Bog plants (in certain districts).

Riverside plants.

Plants that grow in running water.

Plants that grow in still water.

Meadow plants.

Plants of the heath and moor (in certain districts).

Plants of the hills. Plants of the wood. Plants of the sea-coast and salt marshes (in certain districts).

Fern.

The spores of ferns.

Grow some spores in a pan under glass and watch growth and development of a fern. Contrast with growth of mustard from seed.

Mosses.

Lichens.

Fungi.

Simple experiments in manuring plants.

How plants help or hinder each other's growth.

Parasites. Mistletoe.

#### (14) ANIMAL LIFE.

The Rabbit (compare with Hare).—Teeth, legs, feet, claws, covering, tail whiskers, ears, eyes.

The Mouse (compare with Rat and Water Rat).—Teeth, paws, tail, whiskers, eyes, ears.

A Fish.—How fitted to live in water, weight, shape, covering, temperature, movements.

A Plaice (compare with Herring).—Flat, eyes on one side of head, gills, movements.

Animals which sleep in winter.—Examples: squirrel, dormouse, common snake, frog, toad, snail, slug. Preparation made for sleep.

Mole.—Shape, snout, teeth, paws, claws, eyes, ears, fur, food.

Hedgehog.—Covering of spines; how it rolls itself into a ball, and why; head, teeth, food.

Common Snake (compare with Viper).—Shape, covering, teeth, how it moves, how it swallows its prey.

Frog (compared with Toad and Newt).—Movement, capture of prey, breathing, winter quarters.

Garden Snail (compare with Slug).—Shell, mantle, head, horns, eyes, food preparation for winter sleep.

Earthworm.—Shape, rings, locomotion, food, usefulness.

Spider (contrast with Bee).—Shape, segments, legs, eyes, jaws, spinnerets, web, breathing organs.

Insects.—Examples: Bee, beetle, butterfly, cockroach, silkworm. Insect development, legs, wings, segments, mouth, breathing apparatus, ovi-positioners.

A Bird.—Covering, wings, beak, feet; motion; eggs, nests, food.

Local birds of the field, of the hedgerow, of the woods.

The House-sparrow.

Usefulness of some birds.

Birds which come for the summer, for the winter; record dates of arrival.

Local birds.—Singing birds, birds of prey, swimming and wading birds.

Paws and Claws and their uses.—Cat, dog, rabbit, mouse, mole, frog.

Tails and their uses.—Horse, cow, donkey, dog, cat, monkey, harvest mouse.

Tongues and their uses.—Cat, dog, cow, woodpecker, frog.

Teeth and their uses.—Man, cat, cow, horse, rabbit, snake, fangs of poisonous snakes.

Hair, fur, wool, and their uses.—Cat, mole, dog, sheep, fox.

Beaks of birds and their uses.—Duck, fowl, parrot, sparrow, goat-sucker, heron.

Feet of birds and their uses.—Duck, fowl, swift, owl, etc.

## APPENDIX III.

*Specimen Schemes for Teaching Geography.*

N.B.—The following suggestions are intended as a general guide to teacher as to the lines on which progressive schemes of geography may be drawn up. In the first of the two schemes which follow the teaching is based mainly on a study of the locality, expanded from year to year. The ideas thus acquired are from the first classified and systematised. In the second the aim is to create a wide interest in the processes of nature, in the life and occupations of men as conditioned by their natural surroundings, and in those broad truths of history which illustrate geographical principles.

There is clearly nothing incompatible in the two methods, and it will be seen that in neither case is one principle followed to the entire exclusion of the other. Teachers, if they wish, may construct syllabuses which are more humanistic in content than Scheme I., and more systematic in treatment than Scheme II.

## SCHEME I.

In the case of large schools, consisting of six or seven divisions, in each of which a child ordinarily spends one year, the course suggested in each of the grades of this scheme may, perhaps, with such amplification or modification as varying conditions require, be adapted to each of such divisions; while in smaller schools, consisting of two, three, or four groups, a simple course, based on the sequence suggested in the several grades, may easily be framed.

It is essential to the success of the instruction as a mental training that geographical teaching should be based on a thorough study of the locality in which the children live. Observational, practical and experimental work are the necessary correctives of the tendency to make the subject an appeal to memory rather than to reason.

Geographical readers should therefore not be used in the case of younger children, and in the case of older children considerable discretion should be exercised in the use of such books, although they may often be advantageously employed as a means of training children in the habit of acquiring useful information for themselves, with constant reference to the maps.

The teacher must necessarily have recourse to books, but his oral lessons should be his own work, and his illustrations should be adapted, whenever it is possible, to the natural phenomena of the district, and to the circumstances with which the children are familiar.

In dealing with the geography of any district, whether in outline or in greater detail, the first aim of the teacher should be to give a clear idea of the dominant physical features, and this cannot be done without suitable maps. Maps which suggest relief in a broad way that can be easily understood by children should always be used by preference. Perhaps the most suitable are photographic reproductions of relief maps. Such maps will aid the teacher in impressing upon the children the importance of natural lines of communication, and in accounting for climatic variations and the origin of human distribution, because they present the salient facts with far greater force than that of the fullest verbal or written explanations.\*

Map drawing by the children should be an integral part of the instruction. Sketch maps should, in the first place, be drawn on the blackboard by the teacher and copied by the children, who, as they gain proficiency, should

\* It would be highly advantageous if in every school there were a twelve-inch globe with adjustable meridian and axis on a single pedestal; a county or district map in several colours to show the comparative elevation of the land: one or more sheets mounted of the Ordnance Survey one-inch map, hill shaded, coloured brown.

be trained to draw memory maps for themselves. Such maps in the case of the older scholars should not be mere mechanical productions, but should serve to indicate the connection between physical features and their political consequences.

So far as possible, there should be a constant appeal to the great facts of configuration and relief, and to general principles determined thereby, when the climates, the natural products, the internal ways and the external lines of trade of any region are being dealt with. The aim should be not to teach many facts, but to illustrate a few well-founded general ideas. Maps crowded with details should never be used, and only names that are of real importance should be learnt.

Each map of a foreign country or of a colony should have, side by side with it, a map of the British Isles to the same scale, so as to emphasise general distinctions and similarities, but minute comparisons as to extents of area, heights of mountains, lengths of rivers, should not be made.

### INFANTS.

Although formal geography is unsuitable for infants, stories of travel or adventure, and others with a geographical setting, may be correlated with lessons about rain and snow and ice and other natural phenomena. As a preparation for the practical side of geographical teaching, the skilful teacher will turn to account the varied occupations that are practised in the school. In this way an intelligent first class may be trained by means of clay-modelling, crayon drawing, and brush work to represent mountains, valleys, rivers, etc.; and by means of stick laying to form an outline plan of the room in which they are taught.

### FIRST YEAR.

As occasion requires the meaning of geographical terms such as land, mountain, valley, river, lake, island, should be simply explained and illustrated by means of sand and clay, and the models should be reproduced by the children.

The teacher should now construct a plan of the schoolroom on a large scale, using measurements made by the children themselves, and employing for the purpose a blackboard laid on the floor. This plan should be copied by the children with the help of a marked ruler.

Later on in the year a map of the immediate neighbourhood should be drawn by the teacher, in which the school appears drawn on a smaller scale than on the plan, and the children should be asked to show on the map the streets or roads by which they come to school. In this way the children will gain their first notion of a map, and the lessons should sometimes be given out of doors in order that they may observe for themselves the actual things represented on the map.

Outdoor lessons will also be useful for learning the points of the compass by observation of the sun's position at different times of day.

Towards the end of the year a globe should be shown and lessons given about typical scenes in different parts of the world marked on the globe. These lessons should be illustrated as far as possible by pictures or photographs.

The children should be encouraged to ask their teacher for information about what they see about them in this and in each succeeding year.

### SECOND YEAR.

A plan of the school block and playground should be drawn to scale in a mapping book, from measurements made by the children, and school walks should be utilised for the purpose of studying the topography of the neighbourhood rather more fully than in the first year. Observations should be made of the daily motion of the sun by means of a vertical stick fixed on a horizontal board, and the points of the compass should be marked on the plan.

The map of the part of England where the school is situated should be drawn on the blackboard by the teacher; only the most important places

should be marked. Later on in the year the wall map of England should be shown.

- 1 Descriptive lessons about foreign lands and their inhabitants should be given in more detail than in the first year.

### THIRD YEAR.

A plan of the school premises should be drawn by the scholars on a smaller scale than in the first year, and any important buildings near the school should be inserted on the plan. School walks should be extended, and the chief physical features of the neighbourhood, as well as railways, canals, and roads noticed. Observations of the shadow of the school buildings cast by

- 2 the sun at midday and at different times of day should be made. A map of the district in differently coloured chalks according to height above sea level should be drawn by the teacher on the blackboard, and copied by the class in the mapping book as a brushwork exercise. An orographical map of England should be shown, and another map on which political divisions are marked.

At this stage the history lessons should be correlated with the geography lessons, and sketches of the old divisions of England drawn on the blackboard. Lessons should be given about the industries of the district, and broad contrasts noted between the occupations of the people in different

- 3 parts of England. The scholars should be encouraged to ask questions about these points. The great trunk railway lines should be shown on the map, and the scholars should learn how to go from one part of England to another.

- 4 Descriptive lessons should be given about some of the animals and plants peculiar to foreign countries, and reasons given why these differ from those indigenous to England.

### FOURTH YEAR.

The scholars should be taught to draw with the teacher's help a sketch map of any school walk that they take, and to form approximate notions of distance by pacing a given length of road. From these outdoor sketches a map should afterwards be drawn roughly to scale in the mapping book, the conventional signs of the Ordnance map for bridges, railways, and roads being used.

- 5 The direction of the wind, and observations on the weather should be noticed and entered in a chart in this and the following years.

- 6 The length of the shadows cast by school buildings at different times of the year should be measured and inferences drawn.

- 7 The maps of Scotland and Ireland should be studied and the configuration of England compared with that of other parts of the British Isles.

- 8 Some instruction should be given about the oceans and seas adjacent to our shores, and the value of our insular position may be pointed out. The attention of the scholars should be drawn to places of historical interest, especially to those in the neighbourhood of the schools.

- 9 A map of the world on which British Colonies are conspicuously marked should be shown, and one or two Colonies should be studied in detail. Rough comparisons should be drawn between the area and populations of England and those of any particular colony, and the scholars should be trained to find out for themselves the different routes by which our chief colonies are reached.

- 10 Systematic map drawing should now commence, and in each lesson some part of a map should be copied from the blackboard and completed in subsequent lessons.

- 11 Descriptive lessons should be given about typical scenes in our Colonies and Dependencies; the scholars should be encouraged to bring to school any illustrations bearing upon their lessons that they find in pictorial newspapers and journals.

- 12 The practice of giving subjects for composition from the geography lessons should be commenced in this year, and continued in subsequent years.

## FIFTH YEAR.

In their sketches to illustrate school walks the scholars should be taught how to insert contour lines, so as to enable them to understand an Ordnance map in which contours are marked. Observations should be made by the scholars themselves, and if there is no actual hill within reach of the school, rising ground in a street or a road may be contoured. Angles should be measured, and the scholars should be told that heavy wagons cannot go up a slope steeper than 8 degrees without extra horses.

The height of prominent objects such as chimneys or trees may be ascertained by using the length of a shadow of a vertical pole of known length for comparison. It may also be useful to show the scholars how to measure the distance across a river by the use of two right-angled triangles.

Simple apparatus may be devised for explaining the cause of the seasons. The scholars should be asked to look out on fine evenings for the pole star or any prominent planet: They should be taught to observe the moon, and to draw from memory in their books its different phases.

The parts of Europe that are near England, and with which we are closely connected by trade, should be drawn on the blackboard by the teacher and copied by the class; the scholars should learn about the steamer routes and railway routes that connect us with important places on the Continent.

An orographical map of Europe and a political map should be shown, and contrasted with similar maps of England.

Especial notice should be paid to the natural regions into which Europe is divided, and to the connection between its natural and political divisions.

The climate of England should be contrasted with that of the chief European countries; the influence of climate upon natural productions and manufactures should be clearly explained.

Attention should be drawn to the parts of Europe that have been most closely connected with the history of England.

Descriptive lessons should be given about the conspicuous features of the most important Continental towns, and about the characteristic occupations of the inhabitants of the different countries.

## SIXTH YEAR.

The school walks may be used for doing some very elementary surveying of a selected district near the school; a simple and cheap form of plan-table may be employed. The map of this selected district should be carefully drawn to scale, and contours marked on it.

The surface of the surrounding country should be more carefully studied than before, and the main geological features explained. Expeditions should be made to quarries and railway cuttings, and the vegetation and forest trees observed.

The scholars should be taught to take readings from the barometer, thermometer and rain gauge, and enter them on the chart. This teaching should be correlated with lessons in the elementary science course.

The latitude and longitude of the school should be ascertained by observation.

Simple explanations of the tides should be given and connected with the motions of the moon.

Lessons upon the agents that are at work in shaping the earth's surface should be illustrated by familiar examples that may be observed by the scholars.

Maps of the different continents should be shown so as to broadly exhibit their physical and political features.

The colonies and dependencies that make up the British Empire should be more thoroughly studied with a constant reference to the map of England.

Diagrams should be drawn on squared paper to show in a graphic manner our main imports and exports. The great trade routes from England to foreign countries should be studied.

The scholars should be encouraged to read for themselves books of travel from the school library that bear upon their geographical lessons.

## SCHEME II.

The following scheme is published as a suggestion for an alternative treatment of the fundamental notions of geography. It differs from Scheme I. in the greater prominence given to the humanistic aspects of geography, and in the postponement of the formal quasi scientific study of the locality.

Observation lessons and nature lessons are essential in certain parts of the scheme, and local illustrations must pervade the whole teaching. An experienced teacher will find many manifestations of the action of great natural forces from which he can choose his illustrations. Striking natural events, such as a thunderstorm, a long continued drought, a landslip, etc., give striking and vivid illustrations in miniature of the action of the great agencies which have shaped the face of the earth.

The aim of the method suggested, which is to combine oral descriptive lessons and pictorial lessons with direct observation lessons and nature study, is to create an interest in geography in its widest sense before beginning the formal analytic study of any region.

The ideas conveyed to the scholars should seldom be disposed of by a single lesson in each case; they are rather to be thrown out for reflection as material which will be picked up and worked at again and again, not merely in the first period, but throughout the entire course.

A teacher will probably do well to avoid anything which would lead the scholars in the early stages to regard the lessons as connected parts of a new subject called geography; he should rather treat them as independent observation lessons, nature lessons, or descriptive lessons.

The topics suggested are to be dealt with entirely at the discretion of the teacher. Some of them, for example, may be postponed for later consideration or entirely omitted. Almost all would be suitable for fuller treatment in the highest class of the school.

The elementary notions may be grouped under three main headings:—

- A. Physical.
- B. Historical.
- C. Topographical and Economic.

The teaching under each head should be given not separately and consecutively but concurrently, with, however, a leaning to priority in the order given. The topics given will afford material for a course lasting three or four years.

**A. Physical.** The Sun.—Effect of the sun's rays on the wall of the school in summer, and on the water in a lake, reservoir or sea at the same time; on the back of the hand, through the window, when alternately shining on it and intercepted by a cloud or screen; on the glass of the window; on the air outside. The sun's elevation in winter and summer; the times and positions in the horizon of its rising and setting (the idea of north and south will not yet be explained when this is begun); a clock; time; day and year.

Water.—Comes from the rain; which is discharged from winds blowing from the ocean, as these are forced upwards to greater altitudes, and become cooler, on reaching the land; rainfall, therefore, greatest where the land is high, and the winds arrive from warmer latitudes; diminishing as distance from the sea increases; illustrate from British Isles, Western and Eastern Europe; in tropical and sub-tropical regions account must be taken of modifications of prevailing winds caused by seasonal changes; examples of areas of excessive, periodic, and deficient rainfall; deserts; what sources of water are available in desert regions; how rivers and population may exist in the desert.

What becomes of the rain; instance districts from which the water cannot be removed by natural drainage; why the land is not swept in floods during periods of rain; excavation of valleys. In mountainous districts, study the valley features; alternation of gorges and rapids, with open flat-bottomed intervals affording sites for villages; what would be the effect of damming up the valley at any point; water supply of large towns; lakes are portions of rivers which flow out again at the lower end; in suitable places observe the characteristics of the upper end of a lake or mere; except under circum-

stances somewhat similar to these, a river does not bifurcate; formation of a delta; if a river is without tributaries, or a lake has no outlet, the surrounding country is desert.

1 Why the rivers do not run dry when rain ceases; mountain-bogs, springs, wells (use whatever local illustration is available). The snowline; why the snow above this is not melted by the sun's rays; how the accumulated snow finds its way downwards; glaciers.

2 Volcanoes; and their distribution.

The Air.—How we are warmed and cooled by it; how the air is warmed; visible illustrations of water absorbed by the air and discharged from it, noting the conditions under which each takes place, and the form in which water, expressed from the air, becomes visible; how we should become aware of the fact if there were no water in the air. Winds; their effects in drying and cooling; what is to be learned from their direction. Air currents; how the smoke of a fire is carried upwards.

The Earth.—The old question of what it is; why we cannot see its outline as we do that of sun and moon; what first led observers to imagine it a sphere (travellers moving along a meridian, as up the Nile valley, noticed the stars passing east to west overhead were being gradually left behind); where we should have to be in order to see its shape; what we should see from such a position; necessity for a globe; two points on surface stand out from all others as points of reference; north and south; east and west; up and down; a plumb line; height of a mountain; level of the sea. How to adjust the globe, so as to represent the real earth\*; what can be learned by placing the globe, adjusted in this way, so that the sun shines upon it through a window. Day and night; length of the day in our latitude, and near the poles; to be noted and compared with its duration at other seasons; where the stars are that we shall see overhead to-night; how it will come to pass that we ever see those which are in the direction where we now see the sun; at what places it is now morning, evening, midnight; the time at any place; in what direction (estimated with reference to the globe) we see the sun now; in what direction and at what time it will be seen rising and setting. England on the globe; its position with reference to the poles; warmer and colder regions southwards and northwards; compare with southern hemisphere; warm winds and cold ones; character of east and west winds (inferred and observed). Our part of England; what can be recognised about it; why we cannot pursue this examination very far; what could be made out on a very large globe, such as have been constructed for great exhibitions; first idea of a map, a small portion of the surface of a very large globe would be very similar to map of England; compare the lines on it with those on the globe pointing to the pole, and marking places equally distant from it, or more conveniently from the equator.

The Sea.—Gaining on the land in the neighbourhood, or receding; secular changes in the relative level of land and sea; evidence from the depth of the surrounding seas of the permanence of the great continents, and of long-continued isolation, exemplified also by the peculiarities of plant and animal life; submerged valleys; evidence of subsidence of the land on the North West coasts of Europe and America.

Navigation.—Earliest records; for long confined to the coasts by means of capes as landmarks; why a landing cannot be effected at any point of the coast; what conditions are necessary for a good harbour and seaport; the best harbours not as a rule great seaports; must be near to great populations; ocean navigation; reckoning of position; charts; compass. Winds regular over the ocean; easterly in neighbourhood of equator; south-west in our latitude; benefiting western shores of the great land-masses, but not the opposite eastern shores which are exposed to return north-east winds; influence of these winds on the discovery of

\* This very useful adjustment can be effected in a moment before the class by inclining the axis so that a pointer placed vertically to the globe so as to represent a man standing upright in England, is also vertical with respect to the real earth. If the north pole be now swung round until its direction from the foot of the pointer is due north, the globe is then in the position of the real earth, and its axis will, in London, be inclined at an angle of 51 $\frac{1}{2}$  degrees to the horizon.

America; monsoon areas; early navigation of Indian ocean between north-east Africa and India.

- 1 Ocean Currents.—Originate in prevailing winds; effect on them of the earth's rotation.

**B. Historical.** Elementary lessons on savage life, forests, wild animals and their ways, wild traits in tame animals; stories of the first contact of civilised man with savages; how development proceeded after this, beginning on the coasts, where ships can lie in shelter, then extending inwards along the directions of the rivers, whether navigable or not, advancing more and more slowly as the distance from the sea increases, unless, as in modern times, railways are made, which will be sooner or later according to the prospects of connecting with existing great trade routes,

Ancient civilisations in Asia and Egypt; reasons for priority may be found in the half-desert climate, combined with the abundance of large mammals capable of being brought into the service of man, which favoured pastoral occupations; the beginnings of cultivation owing to absence of forests and natural irrigation with fertilisation of the soil in places (compare later with the relative advancement found in the half-desert portions of Central and South America on the arrival of Europeans). Ships in the Mediterranean; would accelerate progress, and cause Europe, with its better waterways and wider area of cultivable land, to supplant older civilisations; the Phoenicians; the Greeks; Rome; Carthage; reasons for the backwardness of Central and South Africa; the Roman idea of Empire making, compared with that of more ancient empires; fall of the Roman Empire; The Teutonic idea of government; why preserved in England, lost on the Continent; rise of modern nations; Spanish power; due partly to advantage of situations at the moment; the trade with India, and its nature; the Rhine, and Holland; causes which led to the discovery of America; Magellan; the downfall of Spain; Civil War in England; gave opportunity to Dutch enterprise; rivalry of the French; increasing importance of the new world; the invention of steam power and machinery; impetus given by it to colonisation in order to supply the increased demand for raw material and food; Australia; South Africa; Argentina; noting the similarity of climates and productions.

Every opportunity should be taken to make use of anything in our language, religion, institutions, and antiquities which is derived from, or in any way recalls, ancient forms and culture.

**C. Topographical and Economic.** (To be begun strictly by local illustration according to opportunity.) The capes, landmarks, lights, and shoals by the coast, and their bearing on navigation; the harbours and seaports, natural or artificial; how a great seaport (like Liverpool or Hamburg) or a country (like Holland) grows rich from advantage of situation, which causes the trade of a large area to be most cheaply conducted through it; how the prosperity of a seaport is affected by the improvement of internal communication (*cf.* Growth of Genoese trade after opening of St. Gothard route); what are the evidences of wealth or poverty in a country; how the condition of the people in this country compares with what it was two hundred years ago; what are the causes of the difference?

The fisheries (if any near the school), whether carried on in deep sea or on bottom banks, or in rivers; at certain seasons, or throughout the year; by lines or nets; for home consumption, or export.

Observe the directions of the main roads and railways in a district, noting gradients and the cause of them; the expenditure incurred by embankments, viaducts, cuttings and tunnels, when railways are carried *across* instead of *along* the valleys, the points chosen for taking roads and railways from the neighbourhood into adjoining valleys or river basins; to be very carefully worked out with a map as we come back again to the subject, comparing, if necessary, as in a lowland country, by means of a relief model or specially chosen maps, with examples from a district of higher elevations.

- 1 Influence of means of communication on the value of land, and on population; describe how the lives and fortunes of peasants in a mountain valley would be changed by the construction of a road or a railway to their village where none had existed before.

Observe where the towns and villages are placed, referring to general laws, and noting exceptions; influence of large markets upon the surrounding country. Comparison of the means of subsistence afforded by mountain-land and plains; the soil; whence derived; why scanty on the mountains, deep on the plains; how the plains in an old country come to be reserved for agriculture, the mountains for grazing, forestry, and quarrying; exceptions to be noted where possible; tendency to plain or strath formation near the river bed in a mountain valley during flood or spate; notice the fan-shaped accumulations brought down lateral valleys by ancient denudation.

- 2 What is met with underneath the soil; and under that; what can be learned from the material excavated from quarries, chalk pits, railway cuttings, shafts or wells.

3 The following summary scheme is suggested for rural schools; the detail to be made out at the teacher's discretion after the manner exemplified above.

#### LOWEST GROUP.

- 4 Elementary notions; and general survey of the Continents and Oceans.

#### MIDDLE GROUP.

- 5 The same continued; and a beginning of local geography studied with maps. (Ordnance Survey, County, and England.)

#### UPPER GROUP.

- 6 The same more fully developed; and special study of some region affording sufficiently wide contrasts.

7

## APPENDIX IV.

*Outline Scheme of Instruction in History.*

1 N.B.—This scheme is not obligatory and is issued solely to exemplify a method of working out the principles which should underlie the teaching of history in Public Elementary Schools.

2 The ultimate aim of the teaching should be far more than merely to convey to the scholars a knowledge of the more important facts of the history of England or of the British Empire. It should rather be to lead them to understand something of the nature of the forces which govern the life of the nation. To this end attention should first be concentrated upon the most important persons and events. Not only do these lend themselves most easily to treatment from the point of view suggested, they have in addition an intrinsic attraction for children. It must be clearly understood, however, that in the early stages the scholars are unable to grasp the ultimate intention of the teaching, and the admission of matter of secondary importance as a background to the figures or events is often necessary in order to enhance the interest of the lessons and to enlist the sympathies of the scholars. A severely rationalised treatment of history is inappropriate for young scholars.

3 The teaching of history presents special difficulties. An attempt to discuss before the scholars broad generalisations would be as unprofitable as to confine attention to learning the contents of a synopsis of English History. The order of ideas dealt with must be adapted to the age of the scholar. Children of eight or nine may be brought to understand the main characteristics of the outstanding figures in history; but it would be hopeless to expect them to appreciate the crucial importance of certain events in the development of the English Constitution, the varying effect of a great military success or disaster according to the circumstances, or the duties and privileges of citizenship. These are, however, suitable topics for the lessons to the highest classes. Though the subjects of the lessons will be mainly taken from English or British History, a teacher who has special knowledge of history may with advantage choose suitable topics from foreign history.

4 Unless the teaching demands oral and written composition on the part of the scholars, and in the highest classes some independent study, it cannot be really effective in any school; the more such methods can be used in small schools the less difficulty there will be in organising the teaching.

## FIRST AND SECOND YEARS.

5 During these years the instruction should be purely oral. The lives of some famous men and women should be told as brightly and as picturesquely as possible, and an effort should be made to link their names with some impressive anecdote or some stirring deed. Material for such lessons exists in abundance in the Bible, in the Homeric Poems, in early Greek and Roman History, in the Stories of the Paladins, in Froissart, in Shakespeare's Historical Plays, in the Stories of Elizabethan Voyages and elsewhere. The number of excellent collections of suitable narratives taken from these and other sources is ample; and from among these the teacher would find no difficulty in selecting stories which would excite the interest of the scholars. Stress should be laid on the personal qualities of the heroes of the stories and the pictorial illustrations—which should be abundantly used—should be bold and dramatic and, so far as may be, correct in their suggestions of the outward circumstances of the time. Since the whole effect of teaching of this kind depends on making the impression as vivid as possible, the intention should be to tell a limited number of characteristic stories as fully as is suitable to the age of the scholars rather than to deal more cursorily with a large number. At this stage the use of a globe or plane map of the World will be advisable in order to add

to the impression of truth that it is important to give to this kind of teaching; and the biographical lessons may occasionally give place to lessons on some of the historical topics suggested in Scheme II. for geography.

### THIRD YEAR.

- The lives of the great men and women of English History should now be taken; and it is desirable perhaps that these should follow each other in chronological order. The stories should in the first instance be related orally; and the treatment should be dramatic and impressive. The lessons might be followed by the reading of a history, which should be well-illustrated and should be written in such a style as to make it suitable and attractive to children of about nine years of age. The map of England, 1 preferably a photographic reproduction of a relief map, should always be in use during the lessons, and pictorial illustrations, and, where possible, lantern slides, should be freely used. But the teacher should always remember that his own blackboard sketches and diagrams will often be necessary even though excellent maps and pictures are available. A scholar should be occasionally asked to repeat in his own words the substance of a story told in this way, and so far as possible each scholar should be called on for an exercise of this kind at least once during the year. In addition to the above further lessons may be given in this and the following year on the historical topics suggested in Scheme II. for teaching geography.

### FOURTH YEAR.

- The method of the third year should still be followed, but attention should be drawn to the lasting results of the lives and acts of the great figures of English History in order to bring out the influence of past events in shaping the present state of the British people. If the geography of 2 the class includes for the first time Scotland, Ireland, and Wales, attention should be called to the leading figures or events in their historical development. The map of England (or of the British Isles) and such other maps as the lessons may call for should always be used, and illustrative materials such as have already been mentioned should be largely employed. Towards the end of this year school journeys may be made to such places of historical interest as are easily accessible, and written composition with reference to the history lessons should now be practised by the scholars.

### THE FIFTH, SIXTH, AND SEVENTH YEARS.

From the fifth year onwards the teaching should become more formal, more continuous and more systematic. Oral teaching is still indispensable and should be regarded as of the first importance; but as the children grow older and become more capable of serious effort the oral lessons should be supplemented by the study of a continuous history book. As the subject of history offers exceptional opportunities for the training of children in the power of silent reading with intelligence and concentration the selection of a good book is of great importance. The best students' text-books are too difficult for children at this stage, yet the books chosen for the higher classes should possess many of the good qualities of such text-books. Technical phraseology on the one hand, and childish simplicity on the other, must be avoided; the book should contain abundant sound historical matter and be free from padding, vagueness, or mere allusiveness, and while the more important personages and events are treated with greater fulness, the narrative should not be so fragmentary as to destroy the sense of continuity. Nor should the value of good illustrations be overlooked when the choice is made.

Important as it is to have a well written and well illustrated book to be used for the purpose of revising the oral lessons, and to some extent as a text-book for preparation, no book, however good, can, with children of this age, supply the place of vivid and vigorous personal teaching.\* It is from a judicious combination of stimulating oral teaching with the study of a

\* The reading aloud of a history book by the scholars with occasional explanations by the teacher is not a proper method of teaching history to children.

book that the most fruitful results are to be obtained, and the book will help to give definiteness to the work which might otherwise become desultory and perfunctory.

It is advisable—especially in schools with a limited staff and limited opportunities—to let the pupils prepare particular topics from the book by study in school, or at home, and to test their knowledge of the subject afterwards by questioning and by calling upon them to reproduce, orally and in writing, the subject-matter given them for preparation. When this method of preparation is adopted care should be taken lest learning by rote should be encouraged. This danger may be avoided or lessened in two ways: by oral exposition the skilful teacher may illumine and brighten the pages of the book; and, by encouraging the children to read different versions of the same tale or topic in different books, he will give them an exercise which will attract their interest and will have a valuable effect in teaching them to judge for themselves by comparing evidence.

The choice of courses and their treatment will depend largely upon the ages to which the children will remain in school, upon the general intellectual level of the pupils, upon the amount of time which can be given to the study of history, upon the tastes of the teacher, and upon the number and the qualifications of the staff. Even in the smaller schools, the schemes should be so arranged as to insure for every child of ordinary capacity before he leaves school a clear knowledge, in outline, of the main course of English History. In the larger and better equipped schools the schemes should provide a more minute and a more exact knowledge of the more important episodes in English history, with some knowledge of the English Constitution and of the growth of the British Empire, together with some knowledge of the salient facts and of the outstanding personages in external history. The subject is so wide that there is room for an almost endless variety of treatment and presentation, and the teacher should use his discretion in selecting the course most suitable to his pupils. Three Schemes are appended: they are merely suggestive and, if adopted, may be varied and modified according to the tastes of the teacher and according to the capacities of his pupils.

In the first Scheme—which is based on the “Concentric” method—the course for each of the three years, while being preparatory for that which follows, is self-contained. By giving a survey of the great landmarks in British History in each year—though by a series of concentric accretions it secures increasing fulness and exactness from year to year—it provides that a child who may have to leave school before he attains the seventh, or even the sixth, year will have acquired a fairly continuous knowledge of the history of his country. In this Scheme the knowledge of the facts and principles gained in one year is expanded and turned to further uses in the next; some of the vitally important problems receive fuller and fuller treatment; and some of the subtler problems which were at first excluded will be gradually unfolded and explained.

The second scheme adopts the method of chronological sequence. The history of England is divided into three periods chronologically, one for each year. While this scheme involves no change of method it ensures a fuller treatment of each period than is possible when a survey of the whole history is taken in one year.

The third scheme is more ambitious in its scope and more specialised in character than either of the other schemes. One year is given entirely to European History, and another to Citizenship and a special period. It has been found to be an eminently suitable scheme for well-staffed schools, with pupils of more than average attainments who have already received a fairly broad foundation before reaching the fifth year.

For effective instruction in any of these or similar schemes a course of well prepared oral lessons, the preparation of which will mean the expenditure of time and thought on the part of the teacher, will be necessary. It may be remarked here that the getting together of a course of prepared lessons need not be attempted in one year; a teacher who has not attempted the systematic teaching of history by oral methods can give a prepared oral lesson say once a month during the first year, and more frequently

during the next year, until he has got together the material for a full course. Even when a prepared set of lessons has been collected, a teacher will find it advisable to give occasional history lessons, outside the ordinary scheme, suggested by any new or interesting book he has been reading for his own pleasure. Once a teacher has developed the power to interest his class in history, his own fresh interest in any historical subject can be turned to great profit in special lessons of this kind, and the special interest of the scholars in a great foreign war can be turned to similar good account.

In all the lessons the complementary studies of history and geography should be taken hand in hand. Various aids may be adopted which add much to the effectiveness of the teaching. Illustrations in the form of pictures, photographs, lantern-slides, old coins and prints are useful in stimulating interest; and the drawing of maps, sketches, diagrams, and chronological summaries on the blackboard—with greater effect if drawn step by step as the lesson proceeds—are a most powerful means of giving vividness and reality to the teaching. Historical albums are also useful. The reading to the class from time to time of striking passages from original authorities and of stirring descriptions from the brilliant pages of writers like Macaulay and Froude will deepen and intensify the effects of a lesson. Collateral reading by the children—at home or in school—of books, tales, and poems; the learning of poetical extracts and of national songs connected with the period studied are all helpful aids which no teacher should discard. The importance of visits to historic spots—an old castle, abbey, a battlefield, a cromlech or a hill-camp—need not be emphasised. The pupils should throughout these three years draw up chronological charts and should give reproductions, orally and in writing, of the lessons. The more advanced among them should be encouraged to make independent researches in the books in the school library, and thus taste the supreme pleasure of finding out things for themselves. In all the teaching it should be the aim not only to impart information, but also to stimulate in the pupils an appetite for increased knowledge of the subject which will outlast their school life.

### SCHEMES.

#### A.

##### *Fifth Year.*

###### Outlines of British History.

A course of oral lessons supplemented by the study of a suitable well-illustrated reading book; the oral lessons to be given with greater fulness around large and imposing figures and around striking events.

###### Recitation of patriotic poems and ballads.

###### Reading of historical tales, e.g., Miss Yonge's, Henty's, Ballantyne's "Erling the Bold," Kingsley's "Heward the Wake."

###### National songs to be learnt.

##### *Sixth Year.*

British History in greater detail. Attention to be concentrated on the more fruitful periods, and especially on the expansion of the Empire.

###### Recitation of suitable poems, e.g., Macaulay's "Spanish Armada"; selections from Shakespeare.

###### Reading of suitable historical tales, e.g., Kingsley's "Westward Ho"; selections from Sir Walter Scott's novels.

###### National songs.

#### B.

##### *Fifth Year.*

###### British History up to 1485.

Special attention to be given to the making of England and the Rise of Parliament. Stress to be laid on the sequence of cause and effect so that the reason as well as the memory may be trained.

##### *Sixth Year.*

###### British History from 1485-1688.

Special attention to be given to the causes of the Reformation in England, the expansion of the Empire and the struggle between King and Parliament.

#### C.

##### *Fifth Year.*

Heroes and heroines or leading events of European History, ancient and modern, in peace and in war. The choice is immense, and only a few of the most attractive subjects can be named here, e.g., Leonidas at Thermopylae, Socrates, Cincinnatus, Hannibal, Julius Caesar, Marcus Aurelius, Charlemagne, Saladin, Hildebrand, St. Francis of Assisi, Saint Louis, Joan of Arc, Henry IV. of France, Gustavus Adolphus, Frederick the Great, &c.

The battles of Salamis, of Cannae, of Pharsalia, of Chalons, of Tours, &c. Macaulay's Lays.

##### *Sixth Year.*

The growth of the British Empire; lives of the great discoverers, inventors, and warriors. First lessons on Citizenship.

Local History: in London schools the growth of the capital should be taken with visits to the Tower, St. Paul's and Westminster Abbey; in other localities rich in historical associations, local history and monuments should be the basis of the instruction.

*Seventh Year.*

British History in still greater detail. The details to be filled in by the study of the causation of events and of the inner life of institutions, and by a course of oral lessons on Citizenship.

At this stage a more minute study might profitably be made of a special period—preferably of one bearing a close connection with the part of the country in which the school is situated, e.g.:

- (i) West of England: the Elizabethan Adventurers and the growth of the maritime power of England.
- 1 (ii) East Anglia: Oliver Cromwell and the Puritan Revolution.
- (iii) North of England: the Industrial Revolution.
- (iv) The Midlands: the Civil War.
- (v) Wales: the career of Owen Glyndur.
- (vi) London: the history of London.

The lessons on the special topic might be supplemented by the reading of a special book (a tale or a biography), and suitable poems, e.g., in (i) a biography of Drake, Kingsley's "Westward Ho," and Tennyson's "Revenge." Any places of historic interest in the neighbourhood, e.g., an old castle, abbey, a battlefield, a cromlech, a hill-camp, should be visited and described.

*Seventh Year.*

British History from 1688 to the present time. Special attention to be given to the expansion of the Empire and the Industrial Revolution.

Lessons on Citizenship.

*Seventh Year.*

Thirty-five lessons on citizenship, local and national; visits continued.

Thirty-five lessons on a special period of about thirty years (e.g., the reign of Elizabeth, or the Long Parliament, or the Age of Anne), with reference to writings of the time and visits to buildings and monuments; first notions on the materials of History and the use of evidence.

Home Reading and the use of Libraries.

## APPENDIX V.

*Outline Scheme for Teaching Drawing.*

I N.B.—This is not in any sense a compulsory scheme and should under no circumstances be treated as a syllabus. It is only an outline plan to indicate how a graduated scheme of exercises can be devised to carry out the aims and principles defined in Chapter IX.

## DRAWING FOR INFANT SCHOOLS.

The aim of Drawing at this stage should be to awaken the faculty of actual observation and assist in bringing the motor nerves under control. Anything like small work should be avoided as being trying to the visual organs and almost impossible for the undeveloped muscles and nerves of young children.

The following types of exercises will be suitable at this stage.

(1) Brushwork drawings of simple natural forms and common objects.

(2) Mass drawing with coloured chalks on large boards.

2 (3) By the use of differently coloured pieces of card, in different shapes, children may be taught colour names and matching, and also the names of shapes and elementary pattern making.

(4) Patterns traced with the finger tips in trays of sand and then quickly shaken out again.

(5) Free arm drawing on the blackboard.

(6) Elementary modelling, if possible.

(7) Memory drawing as an incentive to original observation. Children should be encouraged to observe things for themselves out of school hours, and allowed to draw or express as best they can the results of their observations; at intervals in school time should be given in which the children are told to draw what they like and remember.

## DRAWING FOR THE FIRST AND SECOND YEARS IN THE SCHOOL FOR OLDER SCHOLARS.

The aim in this stage is to develop the expression of *impressions* which it is desirable to fix in the child's mind. The power of sight should be used whenever possible to supplement book work; manual training should be continued by exercises calling for greater precision.

The following will be suitable exercises.

(1) Drawing from simple objects, and from cards placed in positions introducing very simple foreshortening.

(2) Drawing of large flat forms in outline on the blackboard, each scholar, if possible, to have his own example.

3 (3) The drawing of curves on blackboards.

(4) Cards may again be used. The scholars should draw round them, and should fill in the resulting outlines with coloured chalks or brush with colour; or the shapes may be copied with a brush and employed to form patterns.

(5) Card cutting and shape and solid making, introducing the use of rulers and the measuring of spaces.

(6) Memory drawing of things seen in and out of school.

## DRAWING FOR THE THIRD AND FOURTH YEARS IN SCHOOLS FOR OLDER SCHOLARS.

The following exercises will be suitable:—

(1) Drawing from simple objects and from cards in more difficult positions, also (in the fourth year) from simple geometrical models and common objects.

4 (2) Making (i.e. cutting out and forming) shapes, and drawing them unforeshortened and then foreshortened.

<sup>1</sup> For Chapter IX.—Notes on Drawing see page 69 : and see also pages 49, 2; 52, 2.

(3) Making solids in clay or card and drawing plan and elevation; then the same in perspective.

(4) Drawing ornamental forms, also leaves and flowers as simply as possible. Simple combination and repetition of flower and leaf forms in patterns with brushwork and colour. Colour matching and harmonising.

(5) Memory drawing and encouragement of original observation. The teacher should correlate memory drawing with the instruction in wood work or manual training if these are taught.

#### DRAWING FOR THE FIFTH AND SIXTH YEARS IN THE SCHOOL FOR OLDER SCHOLARS.

The following exercises are suitable:—

(1) Drawing common objects of complex form, and memory or knowledge drawing of the same from observation of the underlying forms.

(2) Simple rules of perspective as shown by the interior lines of rooms and observation of lines of buildings outside.

(3) Scale drawing of actual objects from measurements made by the scholars.

(4) Simple light and shade.

(5) Pattern drawing with geometric construction and freehand or brush-work elaboration.

(6) Principles of colour harmony and contrast.

(7) Mechanical drawing, solid geometry with application to wood-work and machine-drawing—enlarging and diminishing drawings.

(8) History lessons may be illustrated by pictures of buildings, costumes, weapons, furniture, etc., of the period. Children should be encouraged to make pictures of scenes.

(9) Science lessons may be illustrated by diagrams of machines, apparatus, natural forms, shells, insects, or animals, when possible; the scholars should be encouraged to illustrate their exercises.

(10) Geography lessons should be illustrated by drawings and photographs of places, different races of men, flora, fauna, rivers, lakes, mountains, different kinds of coasts, etc. (old illustrated maps).

(11) Working drawings should be made in connection with instruction in woodwork.

## APPENDIX VI.

*Scheme for Teaching Singing and Lists of Songs.*

*N.B.—The instructions relating to the Sol-fa and Staff notations are not given as alternatives. Nothing should be taught in the Sol-fa which is not used as a stepping-stone to its counterpart in the Staff Notation, and neither notation has been thoroughly learned unless the children can sing passages accurately using “laa” instead of the sol-fa syllables.*

## GRADE 1.—(Infants.)

## 1. Voice Delivery.

It is of the utmost importance that little children should be trained to sing sweetly and without strain. Children who cannot sing in tune, or whose ear is otherwise defective, should be made to listen to the singing. These non-singers should be weeded out as early as possible and grouped at the front of the class. Their voices should be tried from time to time, and as their power of singing develops they should be drafted back into the class.

## 2. Musical Knowledge.\*

## (a) Tune.

## (i.) Solfa Notation.

The mental effects of the scale degrees and their association with hand signs and Solfa names can be easily taught. The degrees constituting the key-chord should be practised in this way (*Doh, me, soh, doh, or soh, doh, me, soh,*, according to the pitch of the key-tone). The class should be able to sing at sight slowly, using the Solfa syllables from pointing on a Modulator, easy series of notes in the open key, and a like series written on the blackboard.

## (ii.) Staff Notation.

As each step of the above is mastered it should be taught on the Staff in the key of C. A Staff Modulator should be drawn on a blackboard, the lines of the stave being at least three inches apart.

## (b) Time.

## (i.) Solfa Notation.

The class should be able to sing at sight on one tone, using the syllable *Doh*, exercises including one or two pulse tones, in two and four pulse measure.

## (ii.) Staff Notation.

The same, using semibreves and minims.

## (c) Ear Training.

Ear tests of two notes should be sung to the children for them to give the Solfa names. These tests should start on one of the notes of the key-chord.

## 3. Songs.

It is difficult to get anything for very small children that is not commonplace, but whenever possible both music and words should be chosen because they are good.

## GRADE 2.—(Scholars from seven to nine years of age.)

## 1. Voice.

The exercises for training the “head” voice (see page 77) should be begun in this Grade.

\* Musical knowledge is not expected from children under five years of age.

## 2. Musical Knowledge.

### (a) Tune.

#### (i.) Solfa Notation.

The class should be able to sing at sight, first from the Modulator and afterwards from exercises written on the blackboard, the tones of the scale in any (musical) order, gradually introducing *fe* and *ta* in stepwise succession (thus s fe s, d ta l).

#### (ii.) Staff Notation.

The same, first on a Staff Modulator, and afterwards from written or printed exercises.

### (b) Time.

#### (i.) Solfa Notation.

The class should be able to sing at sight on one tone to the syllable *doh*, exercises including half, one and two pulse tones in two, three, and four pulse measure.

#### (ii.) Staff Notation.

The class should be able to sing at sight on one tone to the syllable *doh*, exercises in two-four, three-four, and four-four times, introducing semi-breves, minims, and crotchets. Crotchet rests should be used on the unaccented beats of the bar.

Easy exercises containing the foregoing should be studied in both notations.

### (c) Ear Training.

The children should be able to give the Solfa names of any easy series of three notes sung twice by the teacher, to the syllable *laa*, the chord of the scale of C being given before each exercise.

## 3. Songs.

Songs in this grade should not present troublesome difficulties; but it is not necessary that they should be constructed to include only the notational points mentioned above. There should be no part-singing unless it takes the form of an occasional catch or round; folk-songs and good unison songs may, however, be freely used.

## GRADE 3.—(Scholars from nine to eleven years of age.)

## 1. Voice.

Constant attention is necessary to prevent the children using the chest register, forcing the tone, and otherwise injuring the voice. (See page 77.)

## 2. Musical Knowledge.

### (a) Tune.

#### (i.) Solfa Notation.

The class should be able to sing at sight, from printed or written copies, simple diatonic passages in the major key-containing a transition of one remove indicated by bridge notes.

#### (ii.) Staff Notation.

The class should be able to sing at sight, using the Solfa syllables, simple diatonic passages in the keys of G and F, and similar simple passages containing the sharpened fourth and flattened seventh. Before giving the class passages in the above keys, they should be explained by means of a Staff Modulator.

### (b) Time.

#### (i.) Solfa Notation.

The class should be able to sing on one sound to the syllable *doh*, exercises in three and four pulse measure, containing one pulse and half pulse notes, and whole pulse rests on non-accentuated parts of the measure.

#### (ii.) Staff Notation.

The class should be able to sing on one sound a series of notes and rests in two-two, three-two, four-four, and three-four time. The exercises should

include crotchets, quavers and dotted minims, and rests at the non-accented parts of the bar.

- 1 (c) Combined Tune and Time.  
The class should be able to sing at sight simple passages, containing the foregoing points in both notations.

- (d) Ear Training.

(d) Ear Training.  
The pupils should be able to name any three consecutive notes of a scale sung twice to the syllable *laa* (or played), the chord of the scale C being in each case first given. The pupils should also be able to name any four consecutive notes provided that the first note is one of the notes of the keyboard. The Solfa syllables should be used in naming the notes.

### 3. Songs.

- Folk songs and good unison songs should be principally used and committed to memory; in addition a limited number of rounds or catches may be studied.

**GRADE 4.—(Scholars of eleven years and upwards.)**

### 1. Voice.

- In the highest standards the voices will in cases show signs of beginning to change. Great care must be taken of these voices, and all loud singing prevented.

## 2. Musical Knowledge.

- (a) Tune.

- ### (i.) Solfa Notation.

- The class should be able to sing at sight passages in the minor mode introducing *se*; (thus, 1 se 1) and passages introducing *fah*, *ba*, and *soh*. (Example: Key C, 1 se 1 m ba se 1 d' t l s f m se 1.) It is desirable, especially with older children, that passages including oblique approach to bridge notes should be familiar to the class.

Key F. C.t. f.F.

Example: d s m d m s f m 'r' d' t d' s l t d' 'm f s m r d.

- ### (ii.) Staff Notation.

- The class should be able to sing at sight passages in D and B flat (the two keys having been previously practised with a Staff Modulator); also 6 passages in the melodic minor scale (sharpened sixth and seventh ascending, and flattened sixth and seventh descending).

- Older boys should sing largely from the bass clef, the passages, of course,  
7 sounding an octave higher than written.

- (b) Time.

- ### (i.) Solfa Notation.

- The class should be able to sing at sight on one tone a series of notes, six-pulse measure, beating twice in a measure. One and a half pulse notes and quarter pulse notes should be explained to the class and introduced in the exercise.

- ### (ii.) Staff Notation.

- The class should be able to sing at sight on one note a series of notes in six-eight and six-four time, beating twice in each bar. Dotted quavers and semi-quavers should be explained to the class and introduced in the exercises.

- (c) Combined Tune and Time.

- 10 Easy studies combining the foregoing points should form part of the course of instruction.

- (d) Ear Training.

- The tests should be framed to include the occasional introduction of *fe*, *ta*, and *se*. If the tests are given by dictation and written by the children much time is saved and many more tests can be given.

### 3. Songs.

- National and classical songs should be sung in unison, also old English rounds, catches, and two-part songs (care being taken to see that the alto does not lie too low).

#### LISTS OF SONGS.

- The attention of teachers is invited to the following lists of songs, the use of which is not obligatory. The Board of Education consider that it may be useful, both as offering suggestions and as setting a standard.
- 2 Some of the national airs had originally words unsuited to school use; but in the case of tunes in this list editions exist with all objectionable features removed.

*The practice of preparing five songs for inspection in the past has given rise in many quarters to the idea that it was intended to set this limit to the number learned. This is not the case. Five songs denoted the minimum, not the maximum, number to be prepared; and provided always that the music is of a high class, the more songs learned by the children the better.*

#### 1. FOR INFANTS.

- 3 1. Old English Singing Games.  
2. French Nursery Rhymes (translated).  
3. German Kindergarten Songs (translated).  
4. Nursery Rhymes (Brahms).

#### 2. FOR OLDER CHILDREN.

##### (i.) English Songs.

- 5 6. Begone, Dull Care.  
7. The Hunt is up.  
8. The Jolly Miller.  
9. The Keel Row.  
10. John Peel.  
10. Now, Robin, lend to me thy bow.  
11. Ye Gentlemen of England.  
12. The Bailiff's Daughter.  
13. Barbara Allen.  
14. British Grenadiers.  
15. Drink to me only.  
16. Early one morning.  
17. Good Morning, Pretty Maid.  
18. We be Three Poor Mariners.  
19. The Oak and the Ash.  
20. The Roast Beef of Old England.  
21. Song of the Western Men  
22. Vicar of Bray.  
23. A-hunting we will go.  
24. Come Lasses and Lads.  
25. The Happy Farmer.  
26. The Maypole.  
27. The Mermaid.  
28. The Spring's a-coming.  
29. Under the Greenwood Tree (folk song).  
30. The Useful Plough.  
31. The Bay of Biscay.  
32. Here's a Health unto His Majesty.  
33. Hope the Hermit ("Lady Frances Neville's Delight").  
34. Tom Bowling.  
35. Sigh no more, Ladies.  
36. Ye Mariners of England.  
37. With Jockey to the Fair.  
38. The Golden Vanity.  
39. Dulce Domum.  
40. Farewell, Manchester ("Fenton's Gavotte").  
41. The Girl I left Behind Me.  
42. Polly Oliver.  
43. Hearts of Oak.  
44. Joan to the Maypole.  
45. The Barley Mow.  
46. Golden Slumbers.  
47. Now is the Month of Maying. (Morley.)  
48. Where the Bee Sucks. (Arne.)  
49. Fairest Isle. (Purcell.)  
50. Since First I saw your Face. (Ford.)  
51. It was a Lover and his Lass. (Morley.)  
52. Cherry Ripe.  
53. The Lass of Richmond Hill. (Hook.)  
54. Blow, Blow, thou Winter Wind. (Arne.)

##### (ii.) Carols.

- 5 55. God Rest you, Merry Gentlemen.  
56. The First Noel.  
57. Good Christian Men Rejoice.  
58. The Wassail Song.  
59. Good King Wenceslas.  
60. We Three Kings of Orient are,

## (iii.) Scotch and Highland Songs.

- 1  
61. The Bluebells of Scotland.  
62. Wae's Me for Prince Charlie.  
63. There's Nae Luck.  
64. Ca' the Yowes.  
65. Afton Water.  
66. The Flowers of the Forest  
(original version).  
67. Here Awa', There Awa'.  
68. I'll Bid my Heart be Still.  
69. For a' that an a' that.  
70. Kelvin Grove.  
71. Annie Laurie.  
72. O, Charlie is My Darling.  
73. The Rowan Tree.  
74. O, Why Left I My Hame?  
75. O, Well May the Boatie Row.  
76. Scots Wha Ha'e.
77. The Campbels are Coming.  
78. Bonnie Dundee.  
79. Who Wadna fecht for Charlie.  
80. Robin Adair.  
81. Jack o' Hazeldean.  
82. Wi' a Hundred Pipers.  
83. Lizzie Lindsay.  
84. Will Ye no Come Back Again?  
85. Ye Banks and Braes.  
86. The Auld House.  
87. Thou Bonnie Wood of Craigniebla.  
88. Caller Herrin'.  
89. Ye Shall Walk in Silk Attire.  
90. The Piper o' Dundee.  
91. Lament of Flora Macdonald.

## (iv.) Irish Songs.

- 2  
92. The Bonnie Briar Bush.  
93. \*Go Where Glory Waits Thee.  
("Maid of the Valley.")  
94. \*Remember the Glories of Brian  
the Brave. ("Molly McAlpin.")  
95. \*O Breathe not His Name.  
("The Brown Maid.")  
96. \*Silent, Oh Moyle. ("Arrah,  
My Dear Eveleen.")  
97. \*The Minstrel Boy. ("The  
Moreen.")  
98. \*Let Erin Remember. ("The  
Little Red Fox.")  
99. \*O, Bay of Dublin. ("The  
Groves of Blarney.")  
100. \*The Harp that Once. ("Molly  
My Treasure.")  
101. \*Ayenging and Bright. ("Cona-  
chan na Feine.")  
102. \*'Tis Gone and for Ever.  
("Savourneen Deelish.")  
103. \*At the Mid Hour of Night.  
("Molly, My Dear.")  
104. \*My Gentle Harp. ("The  
Casina.")  
105. \*When through Life unblest  
we rove. ("The Banks of  
Banna.")  
106. \*It is Not the Tear. ("The  
Sixpence.")  
107. \*The Meeting of the Waters.  
("The Old Head of Dennis.")  
108. \*Sweet Innisfallen. ("The  
Captivating Youth.")  
109. \*'Twas one of those Dreams.  
("The Song of the Wood.")
110. \*As Vanquished Erin. ("The  
Boyne Water.")  
111. \*Lay his Sword by his Side.  
("If the Sea were Ink.")  
112. \*She is far from the Land.  
("Open the Door softly.")  
113. \*Farewell, but Whenever You  
Welcome the Hour. ("Moll  
Roone.")  
114. \*I'd Mourn the Hopes. ("The  
Rose Tree.")  
115. \*As Slow our Ship. ("The  
Girl I Left Behind Me.")  
116. \*Forget not the Field. ("The  
Lamentation of Aughrim.")  
117. O for the Swords of Former  
Time.  
118. \*Sing, Sweet Harp.  
119. The Little Red Lark.  
120. O Sweet My Baby.  
121. The Flight of the Earls.  
122. 'Twas Pretty to be in Ballin-  
derry.  
123. My Love's an Arbutus.  
124. When She answered Me.  
125. \*The Cuckoo Madrigal. ("The  
Cobbler of Castleberry.")  
126. Darby Kelly  
127. Hey, Ho, the Morning Dew.  
128. The Melody of the Harp.  
129. Remember the Poor.  
130. The Heroes of the Sea.  
131. \*Away to the Wars. ("When  
You go to a Battle.")  
132. I've Found My Bonny Babe a  
Nest.  
133. \*Clare's Dragoons. ("Vive là.")

\* The familiar title of the melodies used by Moore are given for the purpose of easy identification, but the original names of the airs are added in order that these songs may be taught, as it is imperative that they should be, in their original and unaltered form, and not in the garbled versions which Sir John Stevenson supplied to the poems of Moore.

134. The Quorn Tune.  
 135. \*O'Donnell's March. ("The Little Brown Mallaby.")  
 136. \*Raise us a Riddle. ("I Send You the Floating Tribute.")  
 137. More of Cloyne.  
 138. \*The County of Mayo. ("The Ship of Patrick Lynch.")

## (v.) Welsh Songs.

143. All Through the Night.  
 144. The Ash Grove.  
 145. The Bells of Aberdovey.  
 146. The Rising of the Lark.  
 147. Men of Harlech.  
 148. The Mistletoe.  
 149. White Snowdon.  
 150. Hunting the Hare.  
 151. On This Day.  
 152. This Garden Now.  
 153. She Must be Mine.  
 154. Adieu, dear Cambria.  
 155. The Stars in Heaven are Bright.  
 156. The Black Monk.  
 157. In the Vale of Llangollen.  
 158. Let now the Harp.  
 159. Forth to the Battle.  
 160. David of the White Rock.

139. The Songs Erin Sings.  
 140. \*The Leafy Cool-Kellure. ("The White-breasted Boy.")  
 141. \*Remember Thee. ("Castle Pirowen.")  
 142. Marching to Candahar.

161. A Gentle Maid in Secret Sighed.  
 162. "Lady Owen's Delight."  
 163. New Year's Eve.  
 164. The Miller's Daughter.  
 165. The Exile of Cambria.  
 166. Over the Stone.  
 167. The Marsh of Rhuddlan.  
 168. Woe to the Day.  
 169. Now Strike the Harp.  
 170. Under yon Oaken Tree.  
 171. Weep not, I Pray.  
 172. The Blackbird.  
 173. The Dove.  
 174. The Missing Boat.  
 175. Black Sir Harry.  
 176. The Queen's Dream.  
 177. Loudly Proclaim.

The following note may prove of service to teachers and others who desire to purchase the above songs for school use :—

The numbers in the note refer to the numbers which we have attached to the titles of the songs. Prices are indicated where possible.

Sold by *J. Curwen & Sons, Ltd.*, 24, Berners Street, London, W. Telegraphic address, "Curwen, London." Telephone, "3,494, Gerrard."

The following :—Nos. 5 to 17, 19 to 24, 26 to 33, 35 to 51, 53, 54, 61, 72, 78, 97 to 100, 115, 121, 143, 147, 203 to 205, in "Songs of the British Islands," vocal edition, both notations, price 1s. Nos. 18, 84, in "Folk Songs of England," Part I., sol-fa, price 3d. No. 25 in "Choral Leaflets" (No. 10), both notations, price 1d. Nos. 34, 52, 71, 80, 85, 88, 107, 141, in the "Premier Song Book," staff 2d., sol-fa 1d. Nos. 55, 56, 59, in "Curwen's Christmas Selection" (No. 6), price 1d. No. 60 in "Curwen's Christmas Selection" (No. 2), price 1d. No. 57 in "Christmas Carollers," staff 1s., sol-fa 3d. Nos. 62, 86, 87, in the "Inverness Song Book," sol-fa 1d. Nos. 63, 65, 69, 74, 81, in the "Bonny Dundee Song Book," sol-fa 1d. No. 76 in the "Junior Song Book," staff 9d., sol-fa 6d. Nos. 178, 180, 181, 192, 197, 199, in "The Roundelay" (Part I.), sol-fa 2d. Nos. 182, 194, in "The Roundelay" (Part II.), sol-fa 2d. Nos. 179, 183, 190, 196, in "The Roundelay" (Part III.), sol-fa 2d. No. 186 in "Graded Rounds and Catches," either notation, price 3d.

Sold by *Messrs. Chappell & Co., Ltd.*, 50, New Bond Street, W. Telegraphic address, "Symphony, London." Telephone, "3,653, Gerrard."

The following :—Nos. 5 to 8, 10 to 16, 19, 20, 22, 24, 27, 28, 29, 32, 33, 39, 40, 41, 43, 44, 46, 50, 51, at 6d. each net. Nos. 31, 63, 66, 70, 71, 72, 76 to 81, 85, 88, 89, 91, 93, 95 to 98, 100, 107, 112, 113, 114, at 1s. net. Nos. 34, 48, 52, at 1s. 6d. each net. No. 99, 2s. net. Most of these English Songs are in "Old English Ditties," published in two volumes, price 10s. 6d. each net.

Sold by *John Blockley*, 3, Argyle Street, W.

The following :—Nos. 55 to 57, 59, price 1<sup>d</sup>, each. Nos. 61 to 67, 69 to 73,

## (vi.) Rounds.

- |                                      |  |
|--------------------------------------|--|
| 178. White Sand and Grey Sand.       | 194. A Boat, a Boat.                     |
| 179. Turn again, Whittington.        | 195. Fie now, Prythee John.              |
| 180. Chairs to Mend.                 | 196. Under This Stone.                   |
| 181. 'Tis Humdrum.                   | 197. Hark, the Bonny Christchurch Bells. |
| 182. Wilt Thou lend Me Thy Mare?     | 198. Look, Neighbours, Look.             |
| 183. Wind, Gentle Evergreen.         | 199. Would You Know my Celia's Charms.   |
| 184. Adieu, Sweet Amaryllis.         | 200. She Weepeth Sore.                   |
| 185. Let's have a Peal.              | 201. O Absalom.                          |
| 186. To Portsmouth.                  |  |
| 187. Sing we Merrily.                | 202. Land of My Fathers.                 |
| 188. O my Love.                      | 203. Auld Lang Syne.                     |
| 189. Go to Joan Glover.              | 204. Rule Britannia.                     |
| 190. Come, Follow Me.                | 205. God Save the King.                  |
| 191. My Dame Hath a Lame Fine Crane. |  |
| 192. Great Tom is Cast.              |  |
| 193. Slaves to the World.            |  |

75 to 91, 94, 203, price 6d. each. No. 202, price 1s. Nos. 74, 133, price 1s. 6d. each.

Sold by *Novello & Co.*, 1, Berners Street, W.

The following :—In their series of School Songs, Nos. 5, 10, 22, 24, 44, 46, 48, 50, 172. In "Steiner's School Round Book," price 8d., Nos. 178 to 184, 190, 191. In "McNaught's Collection of Carols," arranged for two voices, complete 1s., or separately 1½d. each., Nos. 58 to 59. In "The School Music Review," Nos. 5, 7, 12, 14, 18, 20, 23, 26, 27, 32, 35, 36, 37, 39, 43, 49, 53, 54, 60, 61, 66, 78, 82, 85, 88, 97, 98, 100, 107, 197, 199, 203, 204. Messrs. Novello also sell the following in various forms: Nos. 6, 16, 21, 29, 30, 34, 47, 51, 71, 80, 81, 93, 94, 95, 101 to 106, 109, 112 to 117, 141, 164.

Sold by *J. B. Cramer & Co., Ltd.*, 124, 126, and 128 Oxford Street, London, W. Telegraphic address: "Fortissimo, London." Telephone: "5,012, Gerrard."

The following :—Nos. 12, 13, 22, 27, 31, 34, 37, 43, 48, 52, 54, 80, 97, 204, 205, price 6d. each. Nos. 9, 25, 38, 42, 83, 84, 143, 144, price 1s. each. Nos. 55, 56, 57, 58, 59, 60, price 1d. each.

N.B.—The editors accept no responsibility in connection with these prices, which are extracted from particulars given by the several publishers.

## APPENDIX VII.

*Needlework.*

## GRADUATED SCHEME FOR TEACHING NEEDLEWORK.

## INFANTS.

## 1. Needle, Position and Knitting-pin Drills.

Drill should not last longer than five minutes and should only be taken as an introduction to the needlework or knitting lesson.

## 2. Hemming on loosely woven calico (large stitches, coloured cottons).

3. Knitting in cotton or wool. Strips or small squares. (Short, thick, steel needles, No. 12.)

## GIRLS.

## CLASS I.

1. Hemming, seaming (top sewing), felling. A small untrimmed garment or other useful article, showing the above-named stitches.

2. Knitting, plain with chain edge. Comforters, strips for petticoats, etc.

## CLASS II.

1. The work of the lower class with greater skill. Practice in folding and tacking hems and seams. A small untrimmed garment or other useful article.

3. 2. Knitting, plain and purled. Cuffs, vests, scarves, etc.

3. Cutting out squares and oblongs in paper, e.g., skirts and bands of aprons. Practice in the use of scissors. Pleating in paper.

## CLASS III.

1. Pleating in material, sewing on tape strings and tape loops. A simple garment or other useful article.

4. 2. Herring-bone stitch on single thread canvas or cheese cloth, and on flannel.

3. Knitting on four needles, e.g., welts of socks, vests, cuffs, etc.

4. Cutting out in paper the pattern of a single garment, e.g., a plain pinafore, child's chemise, petticoat, bodice.

## CLASS IV.

1. Gathering and setting-in; run and fell seam; stitching; run and back-stitching. A simple garment in calico, print or flannel.

2. Darning on canvas, on flannel and on stocking web (thin places).

5. 3. Flannel seams (run and herring-boned), patching on flannel.

4. Knitting on four needles (socks or stockings).

5. Cutting out simple garments in paper and in material (children's chemises, drawers, etc.).

N.B.—The garments to be cut by some simple scale of proportion.

## CLASS V.

1. Sewing on buttons, making button-holes, binding flannel, putting on strengthening tapes. A garment to be cut out by the maker.

2. Darning holes in socks or stockings.

6. 3. Making the front and side openings of chemises, children's drawers, night gowns, etc.

4. Cutting out in material garments suitable for making up in the lower classes.

## CLASS VI.

1. Tuck-running, gusset making, feather stitching. A garment in calico, Oxford shirting, nainsook, or flannel, the garment to be cut out by the maker.

7. 2. Patching in calico and print (methods and practical application to garments).

3. Cutting out in material garments suitable for making up in the lower classes, and paper patterns of overalls or boys' shirts.

## CLASS VII.

1. Setting on embroidery, sewing on lace, whipping frills, open hem stitching. A garment in calico, Oxford shirting or nainsook; the garment to be cut out by the maker.

8. Needlework.—For notes on the teaching of this subject see pages 82; 83; 86.

2. Darning on coarse linen (diagonal cut) and on woollen dress material (hedge tear).
3. Cutting out, in paper or in material, a night dress or combinations (half or full size).

## APPENDIX VIII.

### *Outline Scheme for Teaching Hygiene and Temperance.*

#### PREFATORY NOTE.

It is important that the teacher who is about to teach the rules of health in his school, or to organise such incidental teaching on this matter as may already be given in other branches of the school curriculum, should first give careful thought to certain considerations which will to some extent determine the character of his lessons.

The duty of safeguarding the health of children of school age is only in a limited degree a duty of the school. That the conditions and circumstances should be wholesome throughout the time the scholars are under instruction goes without saying; but the task of forming good habits in regard to such matters as food, clothing, and cleanliness is primarily for the home. The school should doubtless supplement the practical discipline of the home in regard to such matters by furnishing the scholars, at the proper age, with the sound reasons which underlie the rules which the scholars are trained to observe. If the scholars come from homes where parental duties are well understood, and systematically carried out, the teaching of hygiene need hardly go further than this.

But it is often the case that the standard of knowledge or duty among the parents is so low that the physical welfare of the scholars is endangered through the serious neglect in their homes of the fundamental rules of health. The school is practically the only available agency for discharging the neglected duty of the home in this matter; and is therefore forced, in the interests of the scholars, to assume the task of securing that they know these rules, and are encouraged to practise them.

It is in these cases that the proper teaching of hygiene is most urgently called for; and the determination of what should be taught is clearly of the greatest importance. Some schemes for teaching hygiene approach the subject by first expounding certain details of physiology, and in a few this part of the teaching is carried to excessive lengths. There are definite grounds for holding that this method of teaching the rules of health to children is faulty in principle.

In much of the teaching given to the scholars of a Public Elementary School, and perhaps most clearly so in the teaching of history and geography, the main aim is to stimulate interest and to develop intelligence, and the accurate retention of the many facts on which the scholar's attention is at one time or another concentrated is not of vital importance. It is true that the subject matter of hygiene can, and indeed should, be handled in such a way that the teaching develops intelligence, encourages habits of reasoning, and enforces the lesson that neglect of important matters of health will entail certain penalties. But more than this is required; for whatever it is really advisable to teach children about hygiene should be so firmly impressed upon their memories that they will never forget it. The rules of health impressed upon the children should therefore be few and direct, and as little as possible encumbered with technicalities or quasi-scientific expositions; indeed, didactic teaching is necessary in this subject. It must further be remembered that living a wholesome physical life is a question of good habits much more than of intellectual convictions, and it cannot be expected that mere teaching in temperance and hygiene will be an adequate substitute for the training from infancy upwards which is found in every good home.

In the schools of prosperous neighbourhoods the parents will supply, or

1 *Hygiene*.—See also pages 89; 94.

2 See also page 96, 3; 91.

6 *Home Influences*.—See pages 8, 2; 97, 1.

may be induced to supply, the practical training in good habits, for which the home is better equipped than the school. But in poor districts the school must endeavour, in this particular, to supply the deficiencies of the home. Scholars who are not under good home influences must find at the school the discipline of regular duties; without this it is almost hopeless to expect that children when they grow up will observe hygienic principles as a part of the ordinary routine of life. The regular performance of fixed duties is of course important in all schools as an essential part of education, but a good home will provide this discipline in its own sphere if the school does not. Where the homes are not good the performance of fixed duties in school is indispensable to the formation of good habits, because if these are not acquired in school they are not likely to be acquired by the scholars at home.

The training of the scholars in the observance of the rules of health should begin by getting them accustomed to rooms which are thoroughly well ventilated, scrupulously clean, and as bright and cheerful as circumstances permit. The school should be coloured throughout in bright tints, and the walls and ceilings should be washed or recoloured as often as they become noticeably dirty.

#### *Outline Scheme of Instruction.*

2 The instruction given in hygiene and temperance may with advantage deal with the topics set out below.

##### 1.—THE HOME.

Punctuality, fixed duties.

Cleansing of rooms, furniture and fittings.

Clothing, materials, cleanliness, and repair.

Air, windows, doors.

3 Warmth, fires, gas, coal, overcrowding.

Light, lighting, lamps, gas.

Water, washing, drinking, cleansing.

Money, earnings, spending, thrift, Savings Bank.

##### 2.—THE PERSON.

Cleanliness, hair, skin, teeth, eyesight, hearing.

Erect carriage, posture.

Good and bad personal habits.

Breathing, perspiration, change of clothing and bedding.

Signs of good health.

Quiet speech, restraint, self respect.

##### 3.—EATING AND DRINKING.

Meat, milk, cheese.

Vegetables, bread, puddings.

Fats, butter, eggs, bacon.

Tea, coffee, soups, broths.

Over-feeding, under-feeding, unwholesome or unpunctual feeding.

5 The path of food, the use of food.

Fresh air as food, bad air as poison.

Alcohol, its effects and dangers. Not needed by young people.

Tobacco.

##### 4.—ILLNESS.

6 Minor ills, home treatment, accidents.

Fits, infectious illness.

When to send for a doctor.

#### *Notes as to the Treatment of the Topics at Different Stages of School Life.*

7 The following notes are offered for the guidance of teachers in setting out the work for different classes and in dealing with the more important and difficult of the above topics.

See also page 92, 4

See also page 93, 2

Epidemic Sickness.—See N.U.T. Code, page 31<sup>o</sup>.

### INFANTS.

- Formal teaching should not be given to young children on the *laws* of health, but a few simple *rules* of health may very well be impressed upon young scholars, and illustrated by the school discipline or by the practice of their homes, if the latter is sufficiently good to be appealed to with advantage.

#### I.—CLEANLINESS.

- Every scholar should be required to come to school with clean hands, face, and neck, and neatly brushed hair; girls, in the interests of cleanliness, should come to school with their hair tied back. Boots and clothes 2 also should be well brushed. If any scholars do not come to school properly cared for in those matters, they should be sent to the lavatory to wash themselves, or to brush their clothes, and, if necessary, should be shown how to do it. The children should be required to wipe their boots before entering the school.

#### II.—SUNSHINE.

- Infants should be taught that it is good for them to be out in the sunshine; they require sun for growing as much as plants and flowers. The school should be kept as bright as possible, and sunshine should be freely admitted at all times when it is not too hot.

#### III.—EATING AND DRINKING.

It is not good for children to be too particular over what they eat or drink. It would be sufficient to tell them:—

- (1) To eat slowly, both because it is good for them and because it is good manners.
- 4 (2) To drink plenty of water, and milk if they have a chance.
- (3) To avoid beer and spirits, which are bad for them and stop their growth.
- (4) To eat enough clean wholesome food, but never to waste any.

#### IV.—POSTURE.

- Posture and movement should be as free and unconscious as possible. The teacher should only interfere when there is any strain, or really bad position. If the children must sit still for a short time, they should sit straight, but let the time be short. Generally speaking, the less young children think about how they walk, or sit, or stand, the better.

#### V.—GAMES.

- Games should certainly be encouraged in school hours; they give the best opportunity for teaching children good habits of gentleness, unselfishness, and consideration for each other, and are obviously excellent for the infants physically.

#### VI.—SLEEP.

- It would be well to tell the infants that it is good for them to go to bed early—at seven o'clock if possible—and have a long night's sleep; it 7 would hardly be necessary to enter into the number of hours. Young children should get into good habits almost unconsciously, without spending time in thinking what is good or bad for them.

### SCHOLARS OTHER THAN INFANTS.

#### Lower Classes.

##### 1.—FRESH AIR.

- The scholars should be given in rotation the fixed duty of keeping wide open the doors, and, if possible, the windows, during the time between 8 the lessons, so as to flush the rooms with fresh air.

- The teachers should talk with the scholars about the windows, doors, and 9 fireplaces, and about any other means of ventilation there may be. They may be told that what they feel in the wind is moving air, and that this

carries things with it. For example, attention may be drawn to the movement of smoke from a fire, or of steam from a boiling kettle, or of dust on a road in a strong breeze. The scholars should learn that people who live where the air moves about freely are generally stronger than those who live in narrow streets where the air does not move easily. They should be told that when we open a window and feel a draught it means that air is moving in from outside, and that the more fresh air comes into a house or a school the better for those who live in the house or attend the school.

By talking with the scholars about their homes the teacher should find whether any of them sleep with the windows closed, and should tell them that if they want to grow up strong they ought not to sleep with the windows absolutely shut. If they are afraid of the cold they can open them just a little at first, both top and bottom, and then open them more and more as they get used to it.

By simple experiment with the smoke of brown paper the teacher can show the scholars that at some places air is entering the room, while at others air is leaving the room. As a rule, air enters a room by one way and leaves by another way, and air should be always entering and leaving a room.

The scholars should be asked about their own bodies and air, they will see that air enters the body at one time and leaves it at another, using the same path in both cases.

Some of the air which leaves a room leaves by the chimney, and when there is a fire the air that leaves by the chimney is different from that which enters the fire. The difference can be seen. We cannot see the difference between the air which enters by the door and leaves by the open window, or as a rule between the air which enters the body when a person breathes in and that which leaves it when breathed out. Sometimes we can see a difference, e.g. in cold weather, and we can feel that we breathe out air which is warm; if we breathe on a glass we find moisture there, so that there plainly is a difference. Although we cannot see a difference between the air which comes into a room and that which goes out, there will be a difference if there are people in the room.

All ventilation is meant to bring in air from outside a room and to get rid of the air which has been breathed out by people. The air which has been breathed out is not good to breathe in again, and if we stay long in a very crowded room with the windows closed we can feel a difference in the air which makes us sleepy or stupid. The difference is very noticeable when we go out from such a room into the fresh air, or come into such a room after being out of doors. Later we shall find out more about the difference between fresh and breathed air.

## 2.—SUNSHINE.

The sunlight should be freely admitted to every part of the school except at times when the glare or heat would be unpleasant.

The difference between plants grown in the sunshine and those grown in the dark can be shown.

The teacher can talk with the children and ask them when the sun shines most, and when flowers are generally seen. She may tell them that there is a very close connection between the two. When the warm sunny days come in the late spring the scholars should be asked to look at the trees carefully day by day. They will probably observe the rapid unfolding of the buds, and the teacher can then tell the scholars how necessary sunshine is for growth. If plants are grown in the school the scholars may be shown for contrast one grown in the light and another which has been grown in the dark. In the country they can be shown the difference between the leaves of celery above and below ground, and they can be shown that any leaves which grow under ground are never green, while those which appear above ground are almost always green. A man shut up in a dark place would soon become pale and ill, even though he had quite enough good food.

- 1 The teacher should encourage the scholars to go out of doors on Saturdays and Sundays, and during their holidays, for some part of every day, especially in fine weather, and to take walks in the country, if possible, or, if not, in the public parks and gardens. They should be told that this is one of the things that helps them to grow and become strong.

### 3.—CLEANLINESS.

- 2 The scholars should be asked to observe a room which is to be cleaned the next day, and should be asked to observe it again when it has been cleaned. They will learn in this way to notice dust or dirt on the floor, the furniture, or the windows.

- 3 In bright sunshine they should be asked to look at the dust in a sunbeam's path, and they will understand that dust is always in the air whether they can see it or not.

- 4 The teacher should tell the scholars that dust and dirt are not only unpleasant, they spoil books and clothes, and are bad for health.

- 5 People who allow themselves and their homes to get dirty are not so strong as they would be if they were more careful in this matter.

- 6 Fevers and other dangerous diseases come from neglect of cleanliness, and though dirty people do not always get these diseases they are more likely to get them than clean people. Later the scholars will learn the reason.

- 7 The children should be told that each one of them should have a bath with warm water and soap at least once a week regularly. They should be told that they should wash and brush their teeth, and wash their mouths out with clean water, both at bedtime and in the morning. They may be told that by doing this they will be less likely to have toothache and will also feel better for it.

- 8 They should be told also that their underclothes should be changed and washed once a week; and that when they leave their bedrooms in the morning they should take the bed clothes off the bed and spread them out over a chair, or over the end of the bed. Whether they sleep with open windows or not, they should always open the windows wide before leaving the bedroom if they are strong enough to do it for themselves.

- 9 Other small duties conducive to cleanliness and health may be impressed on the children at the discretion of the teacher; and it may be well to remind them that in doing these things they are also helping their mothers or older sisters.

- 10 An occasional practical lesson might be the use of a duster to clean the desks or chairs. Any school material used by the scholars which becomes dirty and can be easily washed, should be washed at the school by the scholars themselves in a regular and systematic fashion.

### 4.—EATING AND DRINKING.

The scholars should be told in regard to eating and drinking that:

- (1) Food is the fuel for the body. One eats more in cold weather than in hot.

- 11 (2) Food should be well chewed.

- (3) It is good to drink water, and much of it, but not during eating.

- (4) People should keep their lips closed while eating.

### 5.—POSTURE.

- 12 Though rigid attitudes are out of place, care should be taken to check bad habits in sitting or standing.

- 13 In standing or walking children should throw their weight on the ball of the foot and not on the heel, they should hold their heads up and their shoulders back. In standing still the knees should be thrown back, and the back should be hollowed.

- 14 In sitting the body should be held upright, the shoulders should be kept back, and the back should be hollowed; children should never be allowed to lean over their desks. The feet are best placed flat on the ground or foot-rest, but this point is perhaps of minor importance compared with those above mentioned. It is sometimes the case that the proper posture

is exaggerated and a strained position is taken up. Care should also be taken lest weak children tire themselves in a well-meant attempt to please the teacher. A tired child should be pressed neither physically nor mentally.

1 Above all, the teacher should avoid checking the free movement of young scholars for any long period at a time.

#### 6.—PLAY.

2 Games and intelligent play should be encouraged in the playground. In some cases there may be no tradition among the children by which good playground games are learnt almost unconsciously. In these cases the teacher at no great trouble can usefully organise good games, and once they are well understood and liked they will be preserved without much further attention.

#### 7.—SLEEP.

3 Every child under the age of ten years is better in bed at seven o'clock, and should remain in bed till seven o'clock in the morning. Ten hours of sleep in every twenty-four are necessary for proper growth.

4 Scholars should be told these things, and if any child is unable to sit or stand well without fatigue or to attend to interesting lessons the teacher should ascertain if he gets enough sleep; in some cases young children habitually get far too little sleep.

### Higher Classes.

#### 1.—FRESH AIR.

5 The class will know that a room in which several people work or sleep, or a school-room or class-room crowded with scholars, gets "close" or "stuffy." People who stay in such a room feel tired, do not want to work and may get a headache. After sleeping in a well-ventilated room people awake fresh and active. If sleeping for one night in bad air has such bad effects, clearly to sleep night after night in such rooms will do great harm. What is the reason for all this?

6 The teacher should invert a tall jar over a lighted candle. The candle will be observed to burn less and less brightly and will finally go out. If the jar be quickly lifted and placed over another candle that also will go out, and at once. If the jar be removed before the candles go out they will revive and soon burn as well as ever. It is clear that fresh air is necessary for burning; air in which things have burnt for a long time is not fit to keep up burning.

7 The candle, if it is to burn, requires something which is in the air. Without that something the candle will not burn. So our bodies require something from the air, and if that something has been used up by other bodies the air is not fit for us to use.

8 For many reasons we believe that air contains, in addition to what is wanted for burning, other substances which do not help burning.

9 We call the substance wanted for burning "oxygen," the other substances make burning steady. A match which burns in air will flare up and soon burn through in "oxygen." If the air we breathed were pure oxygen we also should burn much faster.

10 When we breathe, and when a candle burns, oxygen is used up, and new things are made which are bad for us to breathe, and will also stop burning. Air which contains these things we shall call "bad" air to distinguish it from "good" or "fresh" air. Ventilation not only brings in more oxygen in the fresh air, it helps to carry off the bad air. This is why ventilation is so important.

11 A stuffy room smells nasty. A coal fire smells, a wood fire smells, a smoky lamp smells. All these smells are different, but in each case there is "bad air," and "bad air" is made even when the lamp burns clearly and gives no smell. A nasty smell is a sure sign that the air is bad. As soon as a room smells, fresh air is necessary to sweep away the bad air.

Some people have flowers and plants in their bedrooms. In the night these use up the oxygen and make the air bad, and it is better that 1 sleeping rooms should not contain plants. In the daylight plants do not have this bad effect.

If the fresh air enters by a narrow opening there will be a draught, and 2 draughts are often unpleasant and sometimes dangerous. A window opened wide gives less draught than a window opened only a few inches.

## 2.—CLEANLINESS.

The scholars will know how often the school is cleaned and will be able to picture for themselves what would happen if it were not cleaned. The room would be dusty, the dirt brought in on the boots (even after the 3 scholars have used the doormat) would accumulate on the floor, and pieces of paper would be scattered about the room. The air would smell even if the windows were opened, and the dirt would get on hands, faces, clothes, books, desks, and so on.

All this would be very unpleasant, but that is not all. A fresh ripe apple placed in a dirty room would soon go rotten. A saucer of strawberry jam placed in a corner of the room would soon be covered with 4 a white film and would become nastier to eat the longer it remained in the room.

What is this film on the jam, or "mould" as it is called? If the jam is closed up so that the air cannot get at it there is no "mould." Therefore it must be something in the air, and something of which dirty air has more than clean air. People have found that the "mould" is a kind of plant which grows well in jam, and that the seeds of this plant float in the 5 air. There are very many kinds of this invisible seed, and the air of towns contains far more of them than the air of the country, and the air of the country has more than the air of the mountains. The more of this seed there is in the air, the more the plant will grow on the jam. If the school is not cleaned these invisible seeds will settle with the dust on the walls and furniture.

When a room is cleaned or dusted the dirt or dust is collected and removed. It is no good dusting a room unless the dust is collected and carried away; in some cases it is necessary to sprinkle water, or damp tea leaves, or sawdust, on the floor of a room to prevent the dust and dirt 6 from rising into the air. In other cases the dust can be collected on a dry duster and carried out so. The teacher can illustrate this point by using the duster on the blackboard and showing that the duster, after being used several times, will not clean the board so well as at first.

In the open air, even in the towns, the wind will prevent undue accumulation, and the rain will tend to wash away dust and dirt (and therefore 7 this invisible seed). In summer, for instance, a town smells much sweeter and fresher after rain. By cleaning a school regularly or by cleaning a house regularly the amount of this invisible seed is kept down, and the plants produced by the seeds are prevented from growing up.

Scarlet fever and measles are caused by some kinds of invisible seeds. If people go into a room where this seed is common, as it is if there has been a person with fever or measles in the room, some of it will get on their clothes, and some may get into their bodies, and grow up there into the fever or into measles as the case may be. When there has been scarlet fever in a room this seed will have fallen everywhere and must be killed, or, as we say, the room must be disinfected, before it is safe to use it again.

If the school is not swept and washed the dirt will make a kind of nest where all kinds of invisible seeds gather and grow. Some of these do no harm, but others are most dangerous. It is the same with houses, which need regular cleaning just as the school does. It is a good plan to remove 9 dirt and dust from each living room once a day, and to take out the furniture once a week in order to brush the carpet, dust the walls, and wash the paint. Once a year the carpet should be taken up and beaten, and the floor and other woodwork should be washed with soap and hot

water containing a little carbolic acid. The whole house should be cleaned in this way in the spring or early summer.

1 The body also needs cleaning. Even though people feel as well when they are dirty as when they are clean, in the end it does one harm to be dirty.

2 For instance, people who take care of themselves never fail to brush their teeth and wash them every day. They are less likely to have toothache than people who do not wash and brush their teeth, even if they do not escape it altogether. Why is this? After eating, a white substance often clings to the teeth. This has in it invisible seeds which, in growing, rot and decay the teeth. If the teeth are well brushed the white stuff containing the seeds is washed away and the decay is thus prevented.

3 Then the skin should be washed frequently because many invisible seeds stick to it. If the skin is not broken no harm may be done, but if the skin is broken the seeds grow and cause decay and bad wounds. Some kinds of seeds do harm even when the skin is sound. By washing the skin often enough these invisible things do not get the time they require for doing harm.

4 This is not the only reason why people should be clean. The hair and nails are always growing; and so is the skin. The old skin can be noticed if the skin is rubbed hard by a wet hand without soap. In scarlet fever the skin comes off like a glove. A snake casts his skin as a whole once a year. Our skins are renewed a little by little. Washing helps to remove the old skin.

5 The skin is not like a glove through which nothing can pass. It is like a very fine network, and the openings are called pores. The pores can sometimes be seen on prints of the markings of the fingers. If we do not wash the pores become choked up. What is the harm of this? If people run in hot weather we know that sweat comes out on their bodies and faces. Even in cold weather sweat comes out of our bodies, though invisibly. A mirror held close to the hand will become dim. People are always giving off sweat through the pores of the skin. If we get very hot the sweat often runs down our faces, and we sometimes taste it and find it is salt. It contains many of the waste things our bodies make, and, if we did not sweat, these waste things would remain in our bodies and do no good there. Careful washing is necessary to keep the pores open; if they get choked the waste substances may collect and cause bad complexions or ugly eruptions. Careful washing will help every child to have a clear skin and a good complexion.

6 What would happen to a person who had a plaster covering his mouth and nose? He would choke and soon die because he could not get the oxygen he wanted, and could not get rid of the bad air which is made in breathing. If a plaster covered the skin, it could not easily get rid of the waste things the body gives off when we sweat, and they would soon poison us. Dirt helps to choke the skin; and though it would never do it thoroughly enough to prevent any of the waste escaping as sweat, it would still prevent the skin from working as well as it should. The waste will be got rid of less thoroughly than it should be, if the skin is not well washed periodically. If people want to keep well and strong they must keep the skin working well, just as they must breathe good air.

7 The clothes people wear next to their skins should also be kept clean. Some of the waste which escapes from the skin does not escape from the clothes; these, if not changed, gradually get clogged with the waste, and thus become unpleasant and also help to choke the skin.

### 3.—EATING AND DRINKING.

8 The body is in some ways like a fire or a candle. In a fire it is the coal that burns, in a candle it is the wax of the candle, in the body it is the food we eat, though the burning is very different from that of the fire or candle.

9 As a candle burns it gets lighter and lighter. Similarly, as the body burns it gets lighter unless the material which is used up in the burning is replaced by taking food.

A candle will burn until nothing is left of it. The body will not do so.  
 1 It requires food, i.e., fuel from outside itself; and just as the burning of  
 a fire cannot long go on without fresh food, the body ceases to work if it  
 has no food.

When people eat, the food they have chewed and swallowed goes into  
 the stomach, then into the bowels, and then into the blood, and so on.  
 Inside our bodies food is cooked, or changed, or, as we say, digested,  
 and all the goodness of the food is taken up into the blood, which is  
 2 pumped by the heart all through the body into every little part. With the  
 blood the goodness of food goes to every part of the body. Every part of  
 the body is wasting away, but the goodness of food carried everywhere by  
 the blood repairs the waste. Without food, no fresh goodness gets into the  
 blood, the waste of the body is not renewed; a person without food would  
 soon die through his body ceasing to work.

Food is not of all one kind. What happens when milk stands? Cream  
 rises to the top. Cream has much fat in it. What happens when milk  
 stands in the air for a day or two? It turns sour. If then warmed it  
 3 separates into a white stringy stuff, called curds, and a watery stuff,  
 called whey. Whey is sweet, and contains water and sugar. What  
 happens when new milk is shaken up for a long time, churned as it is  
 called? Butter is made. Butter cannot be made of milk from which  
 the cream has been removed, but whey and curds could be made.

4 Milk contains four different things—water, sugar, fat, and curds. There  
 are other things which are important, but not so important as these.

Milk is all that babies want, and all they ought to have. It is very bad  
 to give a baby anything else. Milk also contains all that is really necessary  
 for older people, though they do not live on it. For older children milk,  
 5 bread, butter, fresh meat, vegetables, fresh fruit, jam, milk puddings, are  
 all good things. The scholars may be told that tea and coffee are not  
 really so good for them as milk or water, and that beer or spirits are very  
 bad.

6 What is there in such things as meat, potatoes, suet pudding, bread and  
 cheese and vegetables? Meat contains fat and lean. The lean of meat is  
 very much like the curd in milk, and the fat of meat is like butter. There  
 are also things like gristle, and other things, which are not important  
 just now. Thus meat has two things like the things in milk, namely, fat,  
 which is like butter, and lean, which is something like curds.

What is there in potatoes? A cooked potato held in the mouth and  
 chewed for a long time will taste sweet. It contains starch, which in the  
 7 mouth changes to sugar. Starch may be called the twin brother to sugar.  
 The starch used in laundries is made from potatoes, and there is little but  
 starch in potatoes.

Suet pudding is made of fat and flour. Flour contains starch and another  
 substance which, when mixed with water, is sticky. If the starch in flour  
 is washed away the sticky substance is left. This is a kind of curd also.  
 Thus suet pudding contains starch, curd, and fat.

Bread is made from flour, so consists of starch and curd.

8 Cheese is made from milk and contains curd and fat.

Thus the ordinary things people eat contain things which are like the  
 9 things that are in milk besides water, namely, curds, fat, and sugar.

Now each of these taken singly will not be good for health. If people  
 lived on potatoes alone, that is, on starch or sugar, they would soon fall  
 10 ill and starve.

If they tried to live on butter or fat alone they would starve.

If they tried to live on cheese or the lean of meat alone they would not  
 starve, but a great deal would be required, it would be very costly and  
 not good. People must have curds, but they ought to have starch and fat  
 11 also in proper quantities. That is why, if they can, people eat two or three  
 different kinds of food in order to have all these important things in  
 proper quantities.

12 Any one of these things, curds, fat, starch, or sugar, would burn quite

easily, if it were dried. A piece of fat or a lump of sugar or a piece of starch will burn, and dry lean meat will burn.

These things are burnt in the body, but without a flame. They first become part of the blood and then are carried by it to every part of the body; the body would otherwise waste away like the candle or the fire.

By eating the right quantity the burning of the body is made steady and regular. If people eat too little the burning is not well kept up and they fall ill.

By eating too much harm is done. Either the stomach gets rid of the unnecessary food so that its goodness is wasted, or the goodness of it gets into the blood, but cannot be used by the body, which does not waste sufficiently, so that the food which cannot get back from the blood does harm and chokes the burning just as overmuch coal on a small fire may put it out. Too much food in the blood will be a kind of poison.

Now the three things, curds, starch, and fat, in burning give people their strength. Coal burning in a furnace under a boiler makes the steam which moves the parts of the engine. The steam cannot be made unless something is burnt to heat the water; unless something is burnt in the body it will not work.

Besides these things that burn in our bodies, there are other things which won't burn, but which people need in order to keep well. First of all there is water, which is necessary for the special kind of burning which goes on. The burning in our bodies is a wet burning. When quick-lime is thrown into water there is great heat, and when hay is stacked too damp it may become so hot through wet burning as to take fire. It is the wet burning of our food that keeps our bodies warm. Our clothes only prevent our bodies from cooling too quickly. Water helps also to remove the waste which is made in the burning; if this were not removed the working of the body would be interfered with, just as a fire would burn badly if the ashes were never moved. Water does not burn itself, it is one of the things which is made in the burning; but we must have it and could live longer without eating than without drinking.

Besides water, curds, fat, sugar or starch, our food contains other things which do not burn, on which we could not possibly live but which are necessary if our bodies are to work properly. These things are found in all the foods which men eat all the world over. Salt is the most important thing of this kind, and all people want more salt in their food than there is naturally there.

Besides these two kinds of food there are things which people often take because they have another special effect.

Tea, coffee, cocoa, and chocolate are all nearly the same, all produce nearly the same effect. Some people take these and say that they cannot get on without them, and are all the better for them. Other people never take these things and do very well without them. Until 200 years ago no one in England took these things. They are not necessary like the foods which we use to make the substance of our bodies, such as meat, bread, fat, or even like the salts which help us to make a proper use of the curds, sugar and fat. Tea will burn, but people do not take it for the sake of this quality, and if they tried to live on tea alone they would starve and die sooner than if they had nothing but water. If people are tired and drink tea they feel able to go on working again. But the effect soon passes away, and if they became really tired out, and then took tea or coffee to help them to work they would certainly be doing a most unwise and dangerous thing. People who have worked so hard that they are tired out need real food and a good rest.

People cannot work on for ever without needing a rest. A person might be able to do so much work without feeling tired, just as he might have so much money to spend before his purse is empty. The faster he spends his money the sooner his purse will be empty, and the faster and harder a man works the sooner he will have to take a rest in order to gather together more power. Tea and coffee and cocoa and chocolate help people to put out their strength faster than if they did not take them; but

they do not give any strength which is not already there, they only help people to tire themselves more than ever. People who take much tea to help them to work soon exhaust themselves for the time being, and do themselfes harm. If a horse has a long way to go, and he is not very fresh a touch or two with the whip just now and then may be a useful thing, and provided the horse gets a good rest at the end of the day he will be none the worse the next day. But if you whip a horse incessantly and make him put out his strength very fast he may exhaust himself before he reaches home. It is no use whipping a tired horse. It is no use, and it is harmful, to take tea when what you really need is rest and real food, such as meat or milk or bread and so on.

People should never take tea which has been long standing in the tea-pot with the tea leaves. If you taste such tea as it comes out of the pot you will find that it is bitter and not at all pleasant, and if you take this bitter tea and allow it to stand you may find that a white substance, which looks not unlike fine sugar, will settle out of it as it gets cold. This white substance has a bitter or drying-up effect in the mouth. If you take this stewed tea it will prevent you from getting the proper goodness out of your food. Many people are very foolish in trying to live on tea and bread and butter, and they are still more foolish when that tea is always stewed tea. Very great harm indeed is done in this way. If people drink tea it should be soon after it is made, and the tea-pot should be washed clean after every meal in which tea is taken.

Some people take other things besides tea. Beer, wine, gin, brandy, and other kinds of drink are all alike in this, they contain spirits of wine. Some contain more spirits of wine than others, but this is the most important thing in these drinks. Spirits of wine burns in the air, but it hardly burns at all in the body. It is not strength giving like curds, or fat or sugar.

<sup>1</sup> When a man drinks beer or spirits you can often smell it. This shows that it is not all changed in his body like the food which gives us strength. In some of these drinks there are things which will give us strength, e.g. sugar, but there is so little of these things that it is not worth while considering them. A gallon of beer contains not much more nourishment than a lump of sugar.

Those who drink beer therefore do not get strength out of it by using it up in the body as they use the real food like meat, bread, and so on. People often drink beer instead of water when they are thirsty because they prefer its taste. They drink it either because they like it, and do not care whether it is dangerous or harmful, or else because they find it helps them to use more quickly the strength they have got out of the real food they have eaten. It is like a whip, just as tea, coffee, and so on, but it is much more effective and violent in its action; and a healthy person ought to need no whip such as that supplied by tea or beer. He ought to be able to do with the real food he gets and with the proper amount of rest. But everyone is not always perfectly healthy and fresh, and many people cannot take a rest just when they need it; even the best of horses sometimes needs the touch of a whip. All the world over tea or coffee or other things like these, or else beer, wines, spirits, or things like these are drunk by people in order to freshen them up. If these things are taken in small quantities they do no harm, though they are never necessary for healthy people and never do them any good; but as soon as ever people depend upon them instead of on proper food, they are doing a most dangerous thing. Children should never take beer, and are better with milk and water in place of tea and coffee.

<sup>2</sup> Although tea and beer have a similar effect, there is a great difference between them. We may take too much real food, too much fat, too much sugar, and so on, and too much even of these good things does you harm. You may take too much of the salts that help you to make use of your real food. Many things which are good in very small quantities are very bad indeed even in moderately large quantities, and there are certain things which must not be taken even in very small quantities indeed. These things we call poisons. You can easily take too much tea, especially at

bed-time. Strong tea taken as you go to bed prevents you from sleeping, and exceedingly strong tea will give you a headache, cause you to be startled at every little incident that goes on around you, will make you "jump" as people call it, will act as a poison. Many people indeed do poison themselves with tea, that is to say although they do not die they are always much less well than other people.

It is even easier to take too much beer, it is easy to poison oneself with beer as people do when they get drunk. It is very easy to take too much beer without being actually drunk. When a man, after taking beer, has his face flushed, or feels heavy or sleepy or stupid, or cannot think clearly, he has had more beer than is good for him. Any person who takes beer would know by this when he had taken too much, but it is very easy to take too much without even experiencing these feelings, which are plain proof that you have taken enough to alter your ordinary condition and to make you less fit either for work or for sensible enjoyment of your own time. Beer, therefore, is very dangerous. But there are other drinks called spirits, such as gin, whisky, or brandy, which are far more dangerous even than beer.

Many people do very well without beer. If they feel tired, or if they feel that they need freshening up for the work that lies before them, they can take good food and a good rest, or perhaps they drink tea or coffee. Some people say that no one ever needs any beer or wine or anything like that so long as he or she is well; and if all people had perfect health and could work or rest as they pleased, beer and wine might well be quite unnecessary at any time. Others say that many people do need an occasional whip, and that tea or coffee is not sufficient for their purpose. But they are speaking of grown up men who very often must go on working when they feel that a short rest would do them good.

But beer and spirits are *always* bad for children; and they are better without tea or coffee. Healthy children need real food, plenty of sleep, plenty of fresh air and sunshine, and enough play and exercise; anything in the shape of stimulants is useless and harmful to them.

There is another point everyone ought to remember about beer and drinks of this kind. The more you drink, the more you want to drink. If people eat more real food than is good for them they will have a desire for eating. If they drink a little too much beer it makes them want more, and then still more again, and so on. But if people drink more than they need of water or milk they will feel satisfied and will prefer not to take more.

Every sensible person knows too that even with older people it is the easiest thing in the world to take too much beer or too much spirits. Every one should be most careful in drinking these things in order that he may not take more than the little which is, or may be, of real help.

Every sensible person knows that thousands and thousands of people poison themselves by drinking too much beer or spirits, by making themselves either drunk, or so stupid as to be almost drunk, and therefore in any case unfit for their work.

Every doctor knows that there are many different kinds of diseases which attack persons who never get drunk, who never even know that they are taking too much, but who drink day after day more beer or wine or spirits than is good for them.

Everybody knows that apart from the risk of disease people who drink too much beer or spirits are likely to become slovenly, to lose control of their good character, and to neglect their duty. Regular employment and wages are lost, so that many others who depend upon those wages for their home and living will suffer in addition to those who actually drink.

For all these reasons beer or spirits or wine are by far the most dangerous things that people are ever likely to drink.

#### 4.—TOBACCO.

Boys should be warned not to smoke at all while they are under twenty years of age, and told that even when they grow up it is very easy to smoke too much. Boys who smoke will be less quick at running games.

It is also an expensive habit. No boy ever derived any benefit at all from smoking, and many boys have done harm to themselves through it. Many boys do it because grown-up people smoke, but no one thinks a boy is any older or wiser because he is smoking.

- 1 Sometimes grown people smoke because they find it is restful; but children never need anything of the kind.
- 2 Even though tobacco in itself may not prevent boys from growing, it often makes them disinclined to eat as much as they need; so that through using tobacco their growth may be hindered.

#### 5.—ACCIDENTS AND ILLNESS.

In case of serious illness or bad injuries it is always advisable to send for the doctor. But for many little ailments it is quite unnecessary to send for, or go to, a doctor if people know what remedies to apply. Trivial accidents can often be cured in this way, although if neglected they may cause much trouble or even suffering. Everyone, therefore, should know how to treat cuts, burns, sores, and matters of that sort.

##### (a) CUTS.

The best thing to do for a cut is to wash it free from dirt or glass by means of warm, and if possible boiled, water. It is better to use weak carbolic acid in the water. If possible a syringe should be used, as it is better that the flesh itself should not be touched by a sponge or by the finger. The edges should then be pressed together, and the place bound up with clean but old calico, or still better, linen. New material often contains substances which might make the cut sore and prevent its healing quickly. Slight cuts are best cured by means of sticking-plaster; if it is necessary to draw the edges of the cut together the plaster should be made into small strips and each should be separately used. It is often useful to keep old gloves and to use pieces of them as a protection for cut fingers.

If a cut is very deep, and bleeds very rapidly, the best thing to do is to try to reduce the bleeding by means of a tight bandage tied over the bleeding surface. This must be made still tighter by pushing a stick through it and twisting it as much as is necessary. A second bandage similarly tightened should be made on the side of the cut nearest the body. If this fails to arrest all the bleeding another bandage may be made at the other side. The doctor should, of course, be sent for in such a case without delay.

If, however, the bleeding is not severe it is not necessary to wait for it to stop before binding up the cut. Any clot that may form should be left if there is no dirt. It is the clot that helps to close and heal the wound. Healing cuts must be carefully protected from dirt.

##### (b) GATHERINGS.

Dirt sometimes gets into a cut or wound and makes it gather or fester. Yellowish matter collects under the skin and there is heat and throbbing in the part affected. Very serious trouble may follow if gatherings are not attended to at once. If it is very bad it is best to go to the doctor, who will cut it so as to get the diseased substance away. If it is only a small gathering, and not yet open, a hot poultice of bread and water is a good thing to use. The matter and dirt will come away, and if the pain is relieved it will probably be necessary to do nothing more than poultice and bind up in order to cure the ailment. If the pain continues or increases a doctor should always see the sore.

##### (c) BURNS.

Slight burns are not difficult to treat. Anything that will keep air away from the burnt skin will be useful in relieving the pain and perhaps in preventing blisters. Oil is the best thing, but flour or even soap will do. If the burn is a bad one oil should always be used.

If a person's clothes take fire the *only* sensible thing to do is to suffocate the fire. The person should be made to lie down and should be covered

with sacks, rugs, or other heavy things which should be pressed tight on the burning garments.

(d) SPRAINS OR BRUISES.

A bad blow may not break the skin, though it bruises the flesh or damages the sinews which fasten the muscles to the bones. Cold water 1 bandages and rest for the injured part are useful. If not too painful, it is good to rub the injured part with the fingers, if necessary using oil or grease to keep down the heat which dry rubbing would cause.

(e) INSECT BITES OR STINGS.

If a bee, a wasp, or an ant stings or bites anyone it is a good thing to 2 suck out the poison as soon as possible; and then to bathe the place in clean water. The sooner the poison is sucked away the better.

(f) FITS.

If a person loses consciousness and lies still, he has fainted. If the face is pale the person should be placed flat on the floor in an airy place, and the clothes about the throat, chest, and stomach should be loosened. If the face is red it is best to raise the head and loosen the clothes. People 3 should not crowd round a person who has fainted, for they keep the air away. Strong smelling substances, such as smelling salts or liquid ammonia or even vinegar should be placed on cloths and held under the person's nose; when the person recovers, a drink of cold water is good for him. People who faint often should see a doctor.

People who fall down unconscious, but do not lie still, should be placed at length with their clothes loosened on a mattress or quilt, and all things 4 against which they might hurt themselves should be removed. The doctor should always be sent for in such cases. Every person who has had a fit should be made to rest quietly on recovering consciousness.

(g) BLEEDING.

People who are bleeding at the nose should be placed in a comfortable position, with the head raised and their clothes loosened. Cold water 5 on the temples or a piece of cold metal on the nape of the neck will help to stop the bleeding. If it persists the doctor should be called in.

(h) WHEN TO SEND FOR A DOCTOR.

If a child has a sudden cold in the throat or nose, a very hot face, a rash, a swollen neck, a fit of sickness or shivering, or a cough ending in a whoop, it is possible that he has been attacked by infectious disease, 6 and a doctor's advice should at once be taken; in the meantime the child should, as far as possible, be kept apart from other children.

*Fresh Air.*—See pages 138, 8; 141, 5.

*Cleanliness.*—See pages 92, 4; 138, 2; 140, 2; 142.

*Eating and Drinking.*—See pages 137, 5; 138, 4; 140, 1; 143,

*Smoking.*—See page 147.

*Accidents.*—See pages 97, 2; 148, 3.

*Illness.*—See pages 93, 2; 137, 6.

*The Doctor.*—See pages 93, 2; 97, 2; 143, 3.

## APPENDIX IX.

*Facilities for the Banking of School Pence.**Information for the Managers of Penny Banks, and for the Managers and Teachers in Elementary Schools.*

## PENNY BANKS.

Special aid is given by the Post Office in establishing Penny Banks in connexion with the Post Office Savings Bank—

- (1) In furnishing specimen Rules for the convenience of Managers of such institutions.
- (2) In supplying *free of charge*, Cash Books and Ledgers for the purpose of keeping the accounts of Penny Banks, and Deposit books or cards for the use of Depositors therein; the Deposit Books and Cards being supplied on the understanding that they shall be issued gratuitously to the Depositors.

[The Deposit Cards are made of a tough and pliable material little likely to be injured by ordinary usage, and, furthermore, possess the advantage of showing at a glance the whole of the transactions.]

When it is desired to open an account with the Post Office Savings Bank on behalf of a Penny Bank, a Form of Application, S.B. No. 44, which can be obtained at any Post Office at which Savings Bank business is transacted, should be filled up and forwarded, together with a copy of the Rules of the Penny Bank, either in print or in manuscript, to the Controller, Post Office Savings Bank, West Kensington, London.

The Rules of the Penny Bank must contain a clause limiting the amount standing to the credit of an individual Depositor in the Penny Bank, at any one time, to a sum not exceeding £5, and providing that when this sum, or some lesser sum, has been saved, the amount shall be transferred to an account opened in the Depositor's own name in the Post Office Savings Bank. Further there must be a provision for the payment of interest to depositors.\* With these exceptions, the Rules may be drawn up as the Managers of the Penny Bank may think fit. If the specimen Rules (Form S.B. No. 77) furnished by the Department are adopted, all that is necessary is that a copy should be filled up and forwarded to the Controller, Post Office Savings Bank.

Deposits can be made in an account opened on behalf of a Penny Bank to the extent of £100 in one year and £300 in all, or if a request be made to the Controller, Post Office Savings Bank, to exceed either of these limits, the Rules will be forwarded to the National Debt Commissioners, and upon their approval being obtained, deposits may be made to an unlimited extent.

If it is desired that Deposit Books or Cards for the use of Depositors in the Penny Bank should be supplied by the Department, a request for them, specifying the number required, should accompany the application to open an account: When a Penny Bank requires a large number of Books or Cards the name of the Penny Bank, the Rules, and the names of the Trustees will, if desired, be printed thereon, but as such Books or Cards must be obtained specially some delay will necessarily occur in supplying them. The ordinary Books or Cards containing the specimen Rules printed inside are kept in stock ready for use.

The Cash Books and Ledgers supplied, if required, to Managers of Penny Banks are—

- (1) Cash Book, ruled for the entry of deposits and withdrawals.

\* Should it be preferred not to fix a definite rate of interest the following Rule would be sufficient:—Interest will be allowed at such a rate as the net profits on the deposit, in the Post Office Savings Bank will permit.

(2) Ledger, containing space for 500 accounts, ruled for deposits, withdrawals, interest, totals, and balances.

The carriage of Deposit Books, Cards, Cash Books, and Ledgers supplied to Penny Banks is paid by this Department.

A Depositor in a Penny Bank is at liberty to have, at the same time, an account with the Post Office Savings Bank, and he can be assisted to open such an account without his attendance at a Post Office in the following manner:—

1 A Form of Declaration—S.B. No. 8—should be filled up and signed by such Depositor, the signature being attested by a clergyman or some other responsible person. The Declaration should then be presented at a Post Office Savings Bank, with the money to be deposited, by some person on behalf of the Depositor, and a Deposit Book would thereupon be issued and handed to the Applicant, who should subsequently obtain the Depositor's signature within the Book in the space provided for the purpose. When the Depositor is under seven years of age, a Form of Declaration (S.B. No. 8b) should be filled up and signed on behalf of the child, and presented at the Post Office in like manner. A supply of Declaration Forms can be obtained at any Post Office Savings Bank.

#### STAMP DEPOSIT SYSTEM.

With a view to the further encouragement of thrift, the Postmaster-General has decided that, in cases where school Managers and Teachers find the 3 penny bank system unsuited to their requirements, he will render them assistance on the following lines:—

4 Upon application being made to the Controller of the Post Office Savings Bank, the Manager or Teacher will be supplied with Stamp Deposit Forms of either of the following descriptions, viz.:—(1) forms containing spaces for twelve stamps with which envelopes will be supplied for the safe keeping of the forms; or (2) forms containing spaces for forty-eight stamps, folded to a convenient size, and printed on much stouter paper, not requiring the protection of an envelope. The name of the school with a space for the name of the scholar will be printed on the forms.

N.B.—The use of the form with spaces for forty-eight stamps will be of advantage to the Department, inasmuch as it will tend to lessen the unavoidable expense of dealing with frequent deposits of amounts under 4s.

If required, a credit stock of stamps can be obtained by furnishing a 5 letter of indemnity signed by two householders. A form for the purpose is provided by the Department.

6 On the day appointed for the receipt of the pence saved, the Manager or Teacher will exchange them for stamps and see the stamps affixed to the forms, which the children will take home as evidence to the parents of the money having been paid in, the forms being then either kept by the parents or returned to the school until the next depositing day.

7 When the school is within a reasonable distance of a Post Office, and the number of Depositors and the amount to be deposited are sufficient to justify the cost, a Post Office clerk will attend at the school at certain intervals, say monthly or quarterly, according to arrangement, to receive the completed Stamp Forms as deposits in the Post Office Savings Bank.

Where the school is situated in a remote district, or in cases where the transactions are not numerous, the following arrangements have been made to assist the Manager and Teacher in bringing the deposits to account, viz.:—

8 (1) In order to open the account in the name of a child over seven years of age in the Post Office Savings Bank, a Form of Declaration (S.B. No. 8) should be filled up and signed by such child, the signature being attested by a clergyman or some other responsible person. The Declaration should be presented at a Post Office Savings Bank with the completed Stamp Forms by some one connected with the school, and a Deposit Book would then be issued in the child's name and handed to the Applicant, who should subsequently obtain the Depositor's signature within the Book in the

space provided for the purpose. When the child is under seven years of age, a Form of Declaration (S.B. No. 8B) should be filled up and signed on behalf of the child, and presented at the Post Office in like manner. A supply of Declaration Forms can be obtained at any Post Office Savings Bank.

- (2) If it is inconvenient for anyone connected with the school to attend periodically at a Post Office in order to open accounts for the children, arrangements will be made for the Manager or Teacher to send the completed Stamp Deposit Forms, together with the Declarations, in a Registered Letter Envelope, to the Post Office. Special envelopes will be provided by the Department for the purpose, and the postage and registration fee will not be charged. The Deposit Books, when issued, will be forwarded by post to the Manager or Teacher.

The completed Stamp Deposit Forms could be deposited in accounts already opened by forwarding the Deposit Books with the Stamp Deposit Forms in the same manner to the Post Office.

Any further particulars respecting Penny Banks or the Stamp Deposit System may be obtained on application to the Controller, Post Office Savings Bank, West Kensington, London, W.

CHARLES D. LANG,  
Controller.

Post Office Savings Bank,  
West Kensington, London, W.

**ELEMENTARY RURAL SCIENCE.****1.—THE PLANT AND SOIL.**

The syllabus is set out in full as the "Introduction to Agriculture and Horticulture" on pages 150-4 (stage 1 of subject xxiv).\* If the course is intended for ordinary village lads, the sons of small farmers, labourers, and the like, whose education has not extended beyond that provided at the Elementary Schools, it may be desirable to shorten the course by omitting the less essential portions, such as that on "How starch feeds the plant." The course would then include:—

1. Seeds. Condition of germination. Mode of growth.
2. Roots.
3. Leaves. Transpiration. Formation of Starch.
4. Stems and buds.
5. Flowers, fruits and seeds. Review of plant life.
6. The soil: supplies plant food.
7. How plants appropriate soil food.
8. Origin and composition of soils.

**2.—INSECT FRIENDS AND ENEMIES.**

The characters and general structure of insects, as exhibited by some good-sized and common example, such as the Cockroach.

The structure and life-history of a Carabus or Cockchafer, as an example of beetles, and two or three of the following, taking such as happen to be locally plentiful, and treating them more briefly:—Dytiscus or Tiger Beetle, Clickbeetle (and Wire-worm), Turnip flea-beetle, Elm-bark beetle or Pine beetle.

The structure and life-history of some Moth or Butterfly, such as the Tiger moth, or Lackey moth, and more briefly two or three of the following: Cabbage white butterfly, Tortoise-shell butterfly, Silkworm, Vapourer moth, Codlin moth, Pea-moth.

The structure and life-history of the Hive-bee, the Gooseberry saw-fly or Pine saw-fly, and some common Ichneumon, such as Ophion.

The structure and life-history of the Crane-fly ("Leather Jacket," "Daddy-long-legs"), Blow-fly, the Bot-fly of the horse, and the Warble-fly.

The structure and life-history of an Aphis (Rose or Turnip Aphis) and a Scale-insect (Currant-scale, Mussel-scale of Apple-tree or Ash-bark scale).

The method of examining the mouth-parts of insects; the mouth-parts, wings and transformation as means of distinguishing the orders.

Protective resemblance, mimicry, development from unfertilised eggs and viviparous generation, as exemplified by common British insects.

The part which insects play in the decomposition of dead vegetable and animal matter, in nourishing birds, and in fertilising flowers.

The chief means of combating the insect-pests of:—

- |                           |                  |
|---------------------------|------------------|
| 1. Farm and garden crops. | 3. Forest-trees. |
| 2. Fruit-trees.           | 4. Farm-animals. |

**3.—MEASURING AND WEIGHING.**

**COMPARISON OF MEASURES OF LENGTH.**—The yard and the metre; the inch and the centimetre. The chain. Number of these units in one mile. The use of scales. The construction of paper scales for different purposes.

**DRAWING TO SCALE.**—Measuring and drawing to scale simple objects, like the schoolroom cupboard and the master's desk. The principles of projection and intersection in making plans, elevations and sections of simple objects.

**AREAS.**—The two dimensions required for area. Calculation of the areas of regular figures. Verification by the use of squared paper and by weighting. Examples of commonly required calculations of areas—floors, roofs, wall-papers, fields, with short methods of calculation.

**THE CARDINAL POINTS.**—Motion of the Sun. How to find a true North and South line. The Compass. The construction of a Sundial.

\* See *Syllabuses and Lists of Apparatus*, 1905-6, published by Wyman and Sons.

**ELEMENTARY LAND MEASURING.**—The use of the chain, and its suitability for obtaining English land areas. How to obtain a right-angle with the chain. The use of a crosshead. The principle of dividing areas into triangles. Offsets. The construction of a plan. The various maps issued by the Ordnance Survey and their interpretation.

**VOLUMES.**—The three dimensions required for volume. Calculation of the volumes of regular solids. Verifications by measuring the water they displace. Calculations of the volume of water held by tanks and barrels, the contents of heaps of stones, stacks, etc.

**DENSITY.**—Elementary ideas of density obtained by measuring and then weighing regular solids. Weight per cubic foot of various materials—wood, brick, iron, etc.

**MACHINES.**—The theory of the lever as worked out by simple experiments with a rod marked in inches, some weights, and a small spring balance. Examples of levers—balances, steelyard, etc. Other simple machines—the wheel and axle, the inclined plane, pulleys, toothed wheels. Illustrations from farm implements, &c., of the application of these mechanical devices.

**STRUCTURES.**—Tension and compression. The triangle the only figure which resists distortion.

Illustrations of this principle in the construction of the ordinary field gate, the king-post, truss, &c. Tie-beams and struts. Beams, their formation and placing with respect to pressure.

**DRAINAGE.**—Principles of simple levelling to determine outfall and direction. Making a simple level with gas pipe and bottles. The construction of a graduated staff. Amount of fall required by water in streams or pipes of different sizes as shown in actual examples.

**THE COURSE MUST BE TAUGHT EXPERIMENTALLY.**—The teacher will require a few yard and metre rules, a measuring tape, a surveyor's chain, a few measures—pint, quart, litre; a jar graduated into cubic centimetres or fluid ounces; a balance and weights, also a spring balance, weighing up to twenty pounds.

Each pupil must have a drawing book and a foot rule. All experiments, plans, &c., should be sketched on the blackboard and drawn out to scale by the pupils in their note books.

## RURAL SUBJECTS.

The following syllabuses are suitable for courses of instruction in rural districts. If desirable, the syllabus of the course may include portions of any of the syllabuses. Thus six evenings might be devoted to Cottage Gardening, six to Dairying, six to Poultry-keeping and the remainder to Bee-keeping.

### 1.—COTTAGE GARDENING.

**SOILS AND SITUATION.**—Danger attending certain situations through want of drainage, late Spring or early Autumn frosts.

**PREPARATION OF THE LAND.**—Digging, trenching, bastard trenching; hoeing, raking, and surface cultivations. Drawing drills. The tools required for the above operations, and the care that should be given to them. The importance of keeping the land clean and free from weeds.

**MANURES.**—Time of year and condition in which to apply stable manure; crops to which it is suited. Use of lime and soot. Use of clay, road grit, ashes, leaf mould, &c., to improve certain kinds of soil.

**THE ARRANGEMENT** of the garden plot to make the most of the ground, secure a proper succession of crops, and get rid of weeds.

**SEEDS AND THEIR REQUIREMENTS.**—Preparation of the seed bed. Seed sowing in the open ground. Protection of the seed from drought, birds, mice, &c. Thinning out. Seed sowing under glass; pricking off, hardening, and planting out.

**MANAGEMENT OF GREEN VEGETABLES.**—Spring and Summer cabbages, kale and brussels sprouts; broccoli and cauliflowers. When to sow and transplant. Pests, and their treatment—cabbage caterpillar; flea beetle; club root.

Spinach, lettuce, and other leafy vegetables. The management of celery—sowing, preparing the trench, manuring, planting out, earthing up, and blanching.

**POD-BEARING VEGETABLES.**—Preparation of soil. Management of Beans—broad,

runner, and dwarf French. Peas, early and late sorts, dwarf kinds and those requiring staking.

**POTATOES.**—Preparing the ground and manure. Preparation of the set for planting. Early and main-crop sorts to grow. Cultivation. Lifting and storing the crop. The storage of seed potatoes.

**TAR-ROOTED VEGETABLES.**—Turnips, beet, carrots, and parsnips. Preparation of the ground. Time for sowing. Enemies—Wire worm; carrot fly, and flea beetle.

**ONIONS.**—The seed bed. Transplanting. Ripening the crop. Autumn and Spring varieties. Destruction of the onion fly.

**THE VEGETABLE MARROW.**—Time to sow and plant out. Requirements for water and manure.

**FLOWERING PLANTS.**—The best annuals; hardy and half-hardy sorts, and their management. Sweet peas, stocks, asters, as examples. Management of dahlia, carnations, roses in the open and against a wall. Window plants like the pelargonium and fuchsia; watering and propagation.

This lecture course is intended for use where the practical part of horticulture is otherwise efficiently taught (by allotments, &c.). A syllabus for a course of practical gardening suitable for Evening Schools will be found on pages 241-5.\*

## 2.—DAIRYING.

**MILK AND CREAM.**—Process of Milking. Dairy Utensils and Appliances, hand and power. Cooling of Milk. Separation and ripening of Cream. Different systems of Cream-raising. Utilisation of Skim-milk. Keeping of Milk. Importance of Cleanliness. Diseases spread by Milk. Conveyance and Sale of Milk. Milk records. Keeping of Dairy and Farm Accounts. Creameries. Butter and Cheese Factories. Different systems of Dairying and their comparative returns.

**BUTTER.**—Churns and other Butter-making appliances, hand and power. Sourcing of Cream. Churning. Washing and Working of Butter. Butter-milk. Packing and transmission of Butter. Salting and keeping of Butter. Colouring. Characteristics of good Butter.

**CHEESE.**—Principles of its manufacture. Making of different kinds of Cheese from Cream, whole-milk, and skim-milk). Acidity of Milk. Use of Rennet and its substitutes. Whey. Appliances for Cheese-making. Ripening and storage of Cheese. Packing and Sale of Cheese. Making of Cream and other soft Cheeses.

## 3.—POULTRY KEEPING.

The construction of houses, ventilation, lighting, internal fittings, various systems of housing. Covered and other runs. Coops. Dust baths. Feeding and drinking utensils. Buying and maintaining Poultry-plant.

**GENERAL MANAGEMENT.**—Eggs wanted for hatching. The broody hen or clucker (indications of broodiness), her nest, her special requirements; various methods of treatment during incubation and when hatching off. Selection of site for the chicken coop. Rearing the chicks, home and foreign methods described and compared. Separation of chickens from the hen and the sexes from one another. Distinctive treatment of growing stock, pullets for winter laying, cockerels for breeding purposes, "green" or "running" stock,

Selection of stock birds, the points indicating health, age, great laying qualities and profitable table birds.

Mating up the breeding pen.

**FOODS AND FEEDING.**—Methods of feeding appropriate to stock at different ages and wanted for various purposes. Foods commonly used, their properties and the circumstances guiding a successful use of them. Foods to avoid. Some foods which could be more often used with advantage.

Grit and other important details.

**ANATOMY.**—A short description of the alimentary canal and egg producing organs, emphasising the peculiarities in the bird which are instructive as to its management.

**BREEDS.**—The chief breeds of Poultry. Leading points by which they are readily distinguished. Conditions such as soil, climate, &c., which should influence choice of breed. The useful characteristics of various breeds. The abuse of breeding for fancy points only.

\* Of the "Syllabuses and Lists of Apparatus."

**THE DISEASES OF POULTRY.**—Insect Pests. Field Vermin.

Management of birds other than the fowl common in the poultry yard. Turkeys, Ducks, Geese.

**MARKETING.**—Storing and preserving eggs. Preparing poultry for Table.

#### 4.—BEE-KEEPING.

1. **ADVANTAGES OF BEE-KEEPING.**—Usefulness of Bees: (a) as producers of food, otherwise wasted. (b) As fertilisers, valuable to the farmer or gardener. Districts suitable to the industry.
2. **LIFE-HISTORY AND STRUCTURE OF THE BEE.**—The egg, larva, pupa, queen, worker, drone. Varieties of the Honey Bee. Construction of the Comb.
3. **BEE-KEEPING APPLIANCES.**—Straw skeps. Modern appliances:—Bar-frame hive (different forms of it), including description of the various parts of a hive—outside case, brood-chamber, section-crates, &c.
4. **OTHER MODERN APPLIANCES** (including a description of how to fit some of them up):—Bar-frames, with wax foundation. Sections, with wax guides. Feeders. Smokers. Honey-extractors. Wax-extractors.
5. **MANAGEMENT OF BEES.**—How to quiet bees. Transferring bees from skeps to bar-frame hives. Stocking hives from “condemned bees,” i.e., those which would have been destroyed by their owners in taking the honey.
6. **MANAGEMENT IN BAR-FRAME HIVES.**—“Spring cleaning” of hives. Artificial swarming. Prevention of swarming. Taking Honey. Queen rearing. Uniting weak stocks. Feeding and wintering bees. Packing and removing bees.
7. **SOME DIFFICULTIES**, and how to overcome them.—Robber-bees. Enemies of bees—wax moth, mice, &c. Diseases of bees. How to deal with accidents arising from bees.
8. **PREPARED HONEY FOR THE MARKET.**—Cleaning sections, and glazing where required. Extracting honey. Extracting wax. Sale of honey and wax.

**NOTE.**—The instruction should be accompanied by as much practical work as possible. Sections 2 and 8 may be illustrated by diagrams or lantern slides; Sections 3, 4 and 9 should be illustrated by practical in-door work, in which the pupils should take a part, including demonstrations of the various appliances and the methods of fitting them up and employing them. Sections 5, 6 and 7 should be accompanied by out-door work at the bee-hives at the appropriate seasons of the year.

#### 5.—FARRIERY.

**PRINCIPLES OF SHOEING.**—The hoof and foot, nature and structure of horn. The wall, sole and frog, blood circulation of the foot. Frog pressure and blood supply, articulation of bones and joints. Diseases of the foot, pathological shoeing. Shoeing for corns, thrush, laminitis, and dropped soles. Shoes, hand-made and machine shoes, charlier, preplanter, tip, bar, rocker shoes, &c. Ligaments and lateral cartilages. Dissection of feet.

**PRACTICAL DEMONSTRATIONS AT THE FORGE:**—Making shoes, preparing feet and fixing shoes.

## PRACTICAL GARDENING.

### *Work to be done in School Gardens.*

#### VEGETABLE CULTURE.

Digging and trenching; explaining the advantages of thoroughly working the soil. Methods of treating both heavy and light soils. Proper and improper methods of using tools.

Experiments in applying both dung and chemical manures, to show the effect of the various elements of plant food.

Drawing drills for the reception of seeds. Preparing seed beds. Correct methods of sowing seeds of various descriptions, including at what depth to bury them, and suitable distances apart for the rows.

Raising and transplanting seedlings; importance of thinning early.

Raising plants to form a succession of crops. The value and method of double cropping. Suitable positions for various crops.

Feeding crops during the growing season. Practical lessons in frequently stirring the soil while crops are growing, to cause them to make rapid progress.

How to destroy insect pests.

How to prevent diseases; how to destroy them in their early stages.

Spraying potatoes.

The advantages of maintaining order and cleanliness throughout the season.

Testing the merits of various kinds of vegetables.

When to gather crops for present use, or for storing.

### FRUIT CULTURE.

Planting Black and Red Currants, Gooseberries, Raspberries and Strawberries.

Lessons in the style of pruning suitable for each, and in their management throughout the year.

Planting Apples, Pears, and Plums. Instruction on their management.

Budding and Grafting.

Destroying insect pests and diseases.

### FLOWER CULTURE.

Raising from seed a few annuals selected with a view to having a succession of flowering plants throughout the summer months.

Growing bulbs and perennials suitable for studying different means of propagation.

Wet evenings should be utilised for the important purpose of collating the work done in the garden and discussing the reasons of the various operations. During the winter the work should be continued by a course of lectures as follows:—

**SOILS AND MANURES.**—Description of various soils. How fertility should be maintained. The value of deep culture. Treatment of heavy and light soils. Draining. Digging and trenching. The preparation and uses of farm-yard manure. The value and application of chemical manures. Results of experiments with chemical manures. How plants and crops obtain their food. The value of leaves.

**HOW TO PRODUCE HEAVY CROPS OF FINE VEGETABLES.**—Preparing the soil and sowing seed. Right and wrong methods. The importance of thin sowing, and early thinning of seedlings. The arrangement of crops. How to help crops forward in spring. The advantages of frequently stirring the soil. Watering and feeding with liquid manures. Storing.

**FRUIT CULTURE: APPLES, PEARS, PLUMS AND CHERRIES.**—Selecting suitable sites and soils. Soil preparation. Arrangement of trees. Planting, good and bad methods. Summer treatment. Diseases and insect pests, causes and prevention. Pruning. Budding and grafting. The value of artificial manures in fruit culture. Treatment of old orchards. Gathering and storing fruit. Varieties.

**STRAWBERRIES AND GROUND FRUIT.**—Time and method of planting. Varieties for various soils. Summer and winter treatment. Suitable manures. Cost of culture. Value of crops.

**BUSH FRUIT: GOOSEBERRIES, CURRENTS, RASPBERRIES.**—Planting and pruning. Summer pruning. Treatment of established bushes. Hints on packing and marketing.

## PHYSICAL EXERCISES.

Circular 515.

## BOARD OF EDUCATION.

WHITEHALL, LONDON, S.W.,

22nd August, 1904.

SIR,—The Board of Education desire that the careful attention of Local Education Authorities and Managers of Public Elementary Schools should be directed to the "Report of the Inter-departmental Committee on the Model Course of Physical Exercises," which has been issued lately (Parliamentary Paper, Cd. 2032), and also to the "Syllabus of Physical Exercises for use in Public Elementary Schools," which has been prepared in accordance with the recommendations of the Committee. Both these documents are on sale by the Stationery Office, and copies may be procured either directly, or through any bookseller, from Eyre and Spottiswoode, East Harding Street, Fleet Street, E.C., and 32, Abingdon Street, Westminster, S.W.; or Oliver and Boyd, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. A specimen copy of the Syllabus, of which the price is 9d., is enclosed herewith. The folding sheet at the end of the volume may be purchased separately, price 2d.; it may be useful for wide distribution to Teachers and Scholars.

I am to direct attention particularly to the following extracts from the Report:

5. These conclusions were not arrived at all at once, but were evolved in the course of discussion as to the exercises which might or might not be included in the syllabus. The syllabus of exercises is in conformity with these principles, and subject to the explanations and instructions given in the introduction we recommend the adoption of this syllabus for general use in schools. We are not of opinion, however, that it is either necessary or desirable to call for immediate modification of Schemes already approved, inasmuch as we believe, not without warrant, that there will be a disposition, apart from any regulations of the central Education Authority, to modify existing schemes without unnecessary delay, in order to bring them into line with that which we recommend.

6. The actual exercises embodied in the syllabus are common to many well-known "systems." They have been selected on the ground of their suitability for children of school age, and because they imply no special provision of apparatus, which we think unnecessary in the circumstances. We have been careful to exclude all exercises which were in the least likely to prove injurious to children of even weak physique, and we have rigorously excluded everything which savoured of the purely ornamental, or which was not of distinct value for one or other of the purposes referred to in the introduction. The consequence is that the courses which may be framed from the syllabus in accordance with the instructions given in the introduction represent a minimum, but as we think a sufficient minimum, of physical exercise for children of the ages specified under normal conditions.

7. It will be seen that we contemplate the formation by teachers from the approved syllabus—which is, as it were, a classified reference list—of a considerable variety of courses, each of which will satisfy the conditions laid down in the Introduction. Nor do we think that courses need necessarily be confined to the selection of exercises given in the syllabus. On

the contrary, in physical exercises, no less than in other school subjects, we think it of the utmost importance that teachers should be encouraged to apply their minds to the consideration of principles, and that they should be at liberty to propose emendations or enlargements of the syllabus, provided there is reasonable prospect of a resulting beneficial effect. At the same time we do not think that such alterations should be made lightly. Possible injury to the children on the one hand, and on the other the possible waste of valuable school time, make it imperative that all such deviations should be scrutinised closely. If approved, they should be sanctioned provisionally only in the first place, but we are of opinion that there should be a regular means provided whereby the syllabus should be revised at not too frequent intervals, and that such alterations provisionally approved as have stood the test of experience and criticism should be formally incorporated in any revised edition of the syllabus that may be issued.

8. In the preceding section we have had in view possible emendations which concern essentials; but as a means of avoiding a waste of energy and labour in connection with the transference of pupils or teachers from one school or district to another, we recommend that when the difference is in non-essentials only—in some detail in the exercise, or in the use of words of command—the form of exercise and the words of command given in the present syllabus should be strictly adhered to. As has already been said, most of the exercises in the syllabus are common to several of the systems at present found in operation in the schools. The difference, where it exists, is for the most part in unimportant details, and it would probably cause but little trouble in most cases to conform in all respects to the directions of the syllabus, while the advantage to the country as a whole, which would result from uniformity as to directions and commands in the use of what are practically identical exercises, would doubtless be very considerable.

13. But from evidence put before us, evidence which is amply confirmed in the personal experience of members, we conclude that there are many teachers who for one reason or another cannot reasonably be expected to qualify themselves in this way for giving instruction in physical exercise. We have in view more particularly the case of teachers, men and women, in or beyond middle life, who are often the sole teachers of rural schools. We do not think that either directly or indirectly should pressure be brought to bear upon such teachers to qualify themselves by attending courses of instruction. But we do not on that account think that physical exercise should be omitted from the curriculum of the schools taught by those teachers.

14. *The few minutes of recreative exercise several times a day are an essential part of the course which we propose, and may quite well be given by teachers who are not specially qualified by attendance at courses of instruction.* As regards the formal lessons, which undoubtedly require special skill and knowledge for their proper conduct, we think that provision should be made whereby the duty of giving such instruction in the class of schools we have referred to shall be devolved upon separate and specially qualified instructors who will take groups of such schools in rotation. Fortunately there is at present a considerable and increasing supply of persons, chiefly women of good general education, who have undergone a systematic course of preparation for becoming instructors in physical exercise. This course of preparation frequently extends to two years or more, and embraces a systematic course of study, both theoretical and practical, of the scientific principles which should regulate bodily exercise, as well as practice in class teaching. With such a supply of teachers the question of providing for suitable instruction in physical exercise in rural schools where the teacher is not specially qualified for this work, is simply a question of educational organisation which may safely be left to be solved by the Local Authorities to whom the educational administration of wider areas than formerly has now, fortunately for this purpose, been entrusted.

16. One other matter must be referred to. For their proper conduct

physical exercises require first of all ample playground space for children's games, which really form an integral part of the course. They require, in addition to the playground, a hall or unoccupied classroom, where the systematic lessons may go on from week to week without interruption from the weather. While it is no doubt preferable theoretically that physical exercises should be conducted in the open air, we are satisfied that it is not practicable to make this the rule. The effect of physical exercises depends in no small measure upon the regularity with which they are taken, but in a climate such as ours, exercises in the playground must necessarily be suspended for weeks together. Apart from the weather, there are other circumstances which need not be referred to in detail, which render the regular conduct of physical exercises in the playground altogether out of the question in many schools. We, therefore, regard suitable accommodation, apart from the playground, as an indispensable part of the equipment of schools for the purpose of physical exercise. It does not follow that this special accommodation need be provided in connection with each school separately. As is pointed out in the Report of the Commission on Physical Training, Scotland, there are certain advantages attaching to the institution of separate places of recreation which would be the common meeting-ground for a group of schools. We attach special importance to the recommendations of the Commission that School Authorities and Managers of Schools should neglect no opportunity of utilising to the full the interest and activity of voluntary workers who, in this department of school work more than in any other, have it in their power to render service of the most valuable kind. They should endeavour to enlist the interest and sympathy of football and cricket clubs (or in the case of girls, hockey clubs), who may be disposed to place portions of their grounds at the disposal of schools, under conditions at times when these grounds are not otherwise in use.

The Board of Education commend to the earnest consideration of your Authority the various points of importance referred to in the above paragraphs, and I am to express the hope that early attention will be given to each one of the recommendations of the Committee as regards their bearing upon the course of instruction in Physical Exercises actually in use in the Schools maintained by your Authority, and that your Authority will give suitable directions to the Managers accordingly. The Board of Education are in communication with various Training College Authorities with a view to securing that all Students who pass out of the Colleges shall in future, so far as possible, be qualified to give instruction in the Course recommended by the Committee. But it is in the meantime extremely important that your Authority should take steps to place at the disposal of those teachers now teaching in the Elementary Schools who are prepared to take advantage of them some opportunities for training in the principles and methods of the new Course. For this purpose your Authority may conveniently arrange for the provision of Evening Classes and Saturday morning or afternoon Classes for teachers on the Staff of the Public Elementary Schools in your area.

The Board of Education consider that the Syllabus should be adopted in all Public Elementary Schools as soon as is reasonably possible. They think that without any great difficulty, courses which have been previously sanctioned by the Board may at once be brought into reasonable conformity with the course now recommended. Where any difficulty is felt the Board will be prepared to sanction the continuance of the scheme at present in use in any given school for such further period as may be necessary, as for instance in cases where it is requisite that teachers charged with this part of the instruction should have time to make themselves acquainted with the principles on which the new course is constructed, and to become familiar with any details of exercises not included in their present course. Alternatively the Board would be prepared to sanction a gradual transition—a beginning of the new course being made in the classes of the infants and junior divisions only. But your Authority should carefully consider whether this plan would not really involve unnecessary labour on the part of the teachers.

The Board attach great importance to the regularity and thoroughness with which Physical Training should be given. And they consider, in ordinary circumstances (a) that at least one hour per week should be devoted to the Formal Lessons (see page 12 of the Report), such hour being divided into not less than two periods of 30 minutes each, or into not more than three periods of 20 minutes each, and (b) that the Recreative Exercises should be daily and constantly practised, as recommended by Paragraph 14 of the Report.

In any case it is desirable that all teachers entrusted with this part of the work should make careful study of the considerations which should regulate the conduct of Physical Exercises as explained in the "Introduction" to the Syllabus, and should also put in practice without delay those simple exercises referred to in Paragraph 17 of the Introduction as recreative exercises.

It is recommended that where possible a system of taking physical measurements of the children at regular intervals should be instituted.

I am further to remind Local Authorities of the importance of making suitable provision for Physical Training, upon the general lines of the Syllabus enclosed herewith, in the Pupil Teacher Centres and the Secondary Schools throughout the area.

I have the honour to be, Sir, your obedient servant,

ROBERT L. MORANT.

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*Circular 515.*—The extracts from the Report of the Committee which this Circular contains are published in the Preface to the Syllabus, but as the views of the Board are expressed in the Circular it has been thought better to print it here, even though it involves printing a few paragraphs twice.

**SYLLABUS OF PHYSICAL EXERCISES FOR  
USE IN PUBLIC ELEMENTARY SCHOOLS.****1904.***Reprinted, with slight alterations, 1905.***PREFACE.**

*Extracts from the Report of the Inter-Departmental Committee on  
the Model Course of Physical Exercises.*

\* \* \* \*

Subject to the explanations and instructions given in the introduction, we recommend the adoption of this syllabus for general use in schools. We are not of opinion, however, that it is either necessary or desirable to call for immediate modification of Schemes already approved, inasmuch as we believe, not without warrant, that there will be a disposition, apart from any regulations of the central Education Authority, to modify existing schemes without unnecessary delay, in order to bring them into line with that which we recommend.

The actual exercises embodied in the syllabus are common to many well-known "systems." They have been selected on the ground of their suitability for children of school age and because they imply no special provision of apparatus, which we think unnecessary in the circumstances. We have been careful to exclude all exercises which were in the least likely to prove injurious to children of even weak physique, and we have rigorously excluded everything which savoured of the purely ornamental, or which was not of distinct value for one or other of the purposes referred to in the introduction. The consequence is that the courses which may be framed from the syllabus in accordance with the instructions given in the introduction represent a minimum, but as we think a sufficient minimum, of physical exercise for children of the ages specified under normal conditions.

It will be seen that we contemplate the formation by teachers from the approved syllabus—which is, as it were, a classified reference list—of a considerable variety of courses, each of which will satisfy the conditions laid down in the introduction. Nor do we think that courses need necessarily be confined to the selection of exercises given in the syllabus. On the contrary, in physical exercises, no less than in other school subjects, we think it of the utmost importance that teachers should be encouraged to apply their minds to the consideration of principles, and that they should be at liberty to propose emendations or enlargements of the syllabus, providing there is reasonable prospect of

a resulting beneficial effect. At the same time we do not think that such alterations should be made lightly. Possible injury to the children on the one hand, and on the other the possible waste of valuable school time, make it imperative that all such deviations should be scrutinised closely. If approved they should be sanctioned provisionally only in the first place, but we are of opinion that there should be a regular means provided whereby the syllabus should be revised at not too frequent intervals, and that such alterations provisionally approved as have stood the test of experience and criticism should be formally incorporated in any revised edition of the syllabus that may be issued.

In the preceding section we have had in view possible emendations which concern essentials; but as a means of avoiding a waste of energy and labour in connection with the transference of pupils or teachers from one school or district to another, we recommend that when the difference is in non-essentials only—in some detail in the exercise, or in the use of words of command—the form of exercise and the words of command given in the present syllabus should be strictly adhered to. As has been already said, most of the exercises in the syllabus are common to several of the systems at present found in operation in the schools. The difference, where it exists, is for the most part in unimportant details, and it would probably cause but little trouble in most cases to conform in all respects to the directions, of the syllabus, while the advantage to the country as a whole which would result from uniformity as to directions and commands in the use of what are practically identical exercises, would doubtless be very considerable.

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From evidence put before us, evidence which is amply confirmed in the personal experience of members, we conclude that there are many teachers who for one reason or another cannot reasonably be expected to qualify themselves in this way\* for giving instruction in physical exercise. We have in view more particularly the case of teachers, men and women, in or beyond middle life, who are often the sole teachers of rural schools. We do not think that either directly or indirectly should pressure be brought to bear upon such teachers to qualify themselves by attending courses of instruction. But we do not on that account think that physical exercise should be omitted from the curriculum of the schools taught by those teachers.

\* \* \* \*

One other matter must be referred to. For their proper conduct physical exercises require, first of all, ample playground space for children's games, which really form an integral part of the course. They require, in addition to the playground, a hall or unoccupied classroom where the systematic lessons may go on from week to week without interruption from the weather. While it is no doubt preferable theoretically that physical exercises should be conducted in the open air, we are satisfied that it is not practicable to make this the rule. The

\*By voluntarily attending classes.

effect of physical exercises depends in no small measure upon the regularity with which they are taken, but in a climate such as ours, exercises in the playground must necessarily be suspended for weeks together. Apart from the weather there are other circumstances, which need not be referred to in detail, which render the regular conduct of physical exercises in the playground altogether out of the question in many schools. We therefore regard suitable accommodation apart from the playground as an indispensable part of the equipment of schools for the purpose of physical exercise. It does not follow that this special accommodation need be provided in connection with each school separately. As is pointed out in the report of the Commission on Physical Training, Scotland, there are certain advantages attaching to the institution of separate places of recreation which would be the common meeting-ground for a group of schools. We attach special importance to the recommendation of the Commission that School Authorities and Managers of Schools should neglect no opportunity of utilising to the full the interest and activity of voluntary workers who, in this department of school work more than in any other, have it in their power to render service of the most valuable kind. They should endeavour to enlist the interest and sympathy of football and cricket clubs (or in the case of girls, hockey clubs) who may be disposed to place portions of their grounds at the disposal of schools, under conditions, at times when these grounds are not otherwise in use.

## CONTENTS.

	PAGE
<b>INTRODUCTION</b> .....	166
<b>SYLLABUS OF EXERCISES :</b>	
Preliminary— Class Arrangements .....	172
Elementary Starting Positions .....	175
Arm Flexions and Extensions .....	177
Balance Exercises .....	178
Shoulder Exercises .....	180
Lunge Exercises .....	182
Head and Trunk Exercises.—Forward and Backward Bending .....	184
Head and Trunk Exercises.—Turning and Sideways bending .....	185
Marching .....	187
Jumping .....	190
Deep Breathing Exercises .....	191
<b>SPECIMENS OF SUPPLEMENTARY EXERCISES FOR CHILDREN OVER 12</b> .....	192
<b>ILLUSTRATIONS</b> .....	193
<b>APPENDIX (Key Table)</b> .....	208

## SYLLABUS OF PHYSICAL EXERCISES.

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### INTRODUCTION.

**Purposes of the Course of Physical Exercises.** 1. THE primary object of any course of physical exercises in schools is to maintain, and, if possible, improve the health and physique of the children. This may be described as its **physical effect**.

2. But the exercises which conduce to this result may, if rightly conducted, have an effect scarcely less important in developing in the scholars qualities of alertness, decision, concentration and perfect control of mind over body. This may be styled the **educational effect**.

3. These two effects are to some extent blended in every suitable exercise and, according to circumstances, now the one aspect of the exercise, now the other, is to be regarded as important. The difference consists rather in the stage at which, and the manner in which, the exercise is taken than in actual difference of movement.

**Physical Effect.** 4. As regards their physical effect exercises may roughly be distinguished as follows:—

**I. Nutritive Exercises.** 5. Those which have primarily a beneficial effect upon the respiration and circulation, and thus make for improved nutrition. These for want of a better name may be styled "Nutritive" exercises.

Here, again, we may distinguish:

**1st Sub-Division.** 6. Those massive movements, immediately of the lower limbs but involving the whole bony and muscular structure of the body, which quickly and powerfully affect both respiration and circulation. Types of such exercises are to be found in the natural play movements of children—running, leaping skipping. It is through such movements—given a sufficient supply of suitable food and of oxygen for combustion of the food—that the structure of the body is built up during the growing period, and under the artificial conditions of school life, it is of the first importance that adequate provision be made for such exercises, preferably in the form of play. Wherever opportunity offers, children should be encouraged to take part in all manner of running games in which a considerable number can engage at the same time, and for girls the exercise of skipping particularly should be encouraged.

**2nd Sub-Division.** 7. Those exercises which affect principally the mechanism of respiration. Types of these are breathing exercises, and those exercises, primarily of the upper limbs, which tend to develop chest capacity or to exercise the muscles involved in the process of respiration.

8. The object of such exercises is the healthy functioning of the lungs, not mere increase of chest capacity. The vital measurement is not that of chest capacity simply, but of the difference between the full and the empty chest. Hence breathing exercises—which may, however, be conjoined with the exercises of the upper limbs already referred to—are the more important, and the power of emptying the chest should be cultivated.

**Importance of Nasal Breathing.** 9. From unhealthy catarrhal conditions in infancy many children learn to breathe through their mouths. A certain proportion of these children develop actual obstructions to nasal breathing. Purely nasal breathing should be the rule. A child who cannot breathe comfortably without using the mouth requires to be submitted for medical examination. The establishment of nasal breathing will probably be accompanied by an improvement in the child's power of attention, and is consequently of great importance educationally. It also diminishes the risk of contracting most infectious diseases with their serious results.

10. The breathing exercises as mere imitative movements may be begun on the child's first admission to school, the formation of habits of correct nasal breathing

being a matter of as great importance as any other department of infant school work.

**3rd Sub-Division.** 11. [A third sub-division of exercises under this head may also be mentioned, viz. those which involve lifting of weights or pulling against resistance. These exercises require sustained effort and powerfully affect respiration and circulation; but they are quite unsuitable for young children, and should be used only with caution in the form of exercises with light dumb-bells, &c., for the older children.]

**II. Corrective Exercises.** 12. Another group of exercises has for its principal effect the correction, as far as possible, of certain bodily defects, many of which, unless care is taken, are apt to be intensified by the artificial conditions of school life. These may be termed "Corrective" exercises. Types of such exercises are such apparently trivial exercises as heels raising, designed to counteract the tendency to flat foot, and head and trunk backward bending, which is to some extent remedial against the stooping position too often acquired by working at desks. As regards the latter, however, it is obvious that remedial exercises practised a few times a week will be of little avail unless care is taken at the same time to secure habitually good positions on the part of the children while at work, and attention to such positions during other lessons must be regarded as an integral part of physical training.

**Importance of positions, both sitting and standing.** Among other things to be attended to in this connection is the distance from the eye at which reading or other school work is habitually done. This should never be less than twelve inches.

**III. Control Exercises.** 13. Still a third class of exercises are those which have their effect principally on the nervous system, and the control exercised by the nerve centres over the muscles. These may be called "Control" exercises. Types of such exercises are the various balance exercises. They are well exemplified, for example, in the process of learning to ride a bicycle, in dancing, in skating, or in the boyish amusement of walking on stilts. A peculiarity of such exercises is that they imply a veritable education of the nerve centres, and that their final effect is only slowly developed. This peculiarity will be dwelt on under the next head, viz. Educational effect.

**Educational Effect.** 14. This effect, as already said, properly belongs to all exercises in a certain degree, and at a certain stage. Certain complex co-ordinations of movement, as, for example, those of walking, are established at a very early stage and before the child comes to school. The exercises referred to in section 6 belong to this class and afford comparatively little scope for educational effort above the infant school. Still, even here much may be done by teaching proper positions and the proper mode of performing certain apparently natural movements to secure a greater result from a given exertion, to lessen, as it were, the internal friction, and to produce the ease and grace of movement which represent in the long run a considerable saving of vital energy. This result can be attained only by what is really an educational process, by an exercise of the will and the attention, with a corresponding education of the nerve centres and the brain.

15. While this educational effect pertains to, or may be deduced from, such apparently natural movements as walking, running, breathing, it belongs in a higher degree to the other exercises in the syllabus, and in particular to the balance exercises. At first, each of these exercises requires for its performance in varying degree a certain concentration of mind and a certain effort of will, and it is only by repeated, and at first laborious, efforts that perfection of execution is arrived at. A certain degree of fatigue accompanies the earlier performances, and the more immature the structures put into action, the more sensitive they are, and the earlier do they show fatigue. At the same time the effect of each performance is stored up as a permanent memory, the repetition becomes less fatiguing, and the result of lessons repeated week by week is that eventually the exercise becomes practically automatic. At this stage its value as an educational exercise virtually ceases, but its value as a nutritive exercise remains and is even enhanced. It follows that in a school course one and the same exercise may be used for two quite different purposes—(1) during the process of learning, for its educational effect; (2) when it has been mastered,

for its nutritive effect; and this distinction is of cardinal importance for determining the times at which, and the manner in which, the exercise should be taken.

**Conclusion  
as to the  
mode in  
which  
Physical  
Exercises  
in Schools  
should be  
conducted.**

**A. Formal  
Lessons.**

New exercises or combinations of exercises should be continually but gradually introduced to the very end of the course, otherwise the educational effect tends to disappear.

**B. Recre-  
ative\* Exer-  
cises.**

16. There should be periods, two or three a week, in which the exercises are treated to all intents and purposes as school lessons. The learning of unfamiliar exercises by repeated efforts demands a concentration of attention and a mental exertion in all respects comparable to what is required in other school lessons. If properly done, the performance of the exercises involves fatigue such as is necessarily involved in all profitable efforts of an educational nature, and is in no way to be regarded as a relief or set-off to other school tasks. There is consequently the same need for proportioning the length of the lessons to the age of the children, for observing a suitable progression of exercises so that at each stage some effort will be required, but an effort which does not amount to strain, and for insisting on a higher degree of precision and accuracy, with increasing practice and advancing years.

only, and should be followed immediately by exercises of an entirely different nature during which pulse and respiration are slowed down.

22. A lesson may be shortened, if necessary, by the omission of any group or groups of exercises, provided that a proper balance of vigorous and lighter exercises is preserved. There is not the same necessity for the more vigorous and massive leg movements when the exercise follows immediately upon a period of play, or when, as in a rural school, the outdoor and home life of the children give abundant opportunity for natural exercise. On the other hand, they are all important in schools where the opportunities for vigorous games or equivalent natural exercise are restricted, as is frequently the case in town schools.

**Selection  
and combi-  
nation of  
Exercises—  
Working  
Tables.**

23. Subject to the foregoing general principles the selection and combination of exercises for any particular class is a matter which is left to the judgment of the teacher, who should from the syllabus construct tables to form the basis of work for a class for a certain definite period. These tables should be revised from time to time, and more difficult exercises in one or more of the groups gradually introduced. It is in the construction of these tables, no less than in the manner of execution of the exercises contained, that the resource of the capable teacher will be displayed.

24. In the Appendix a Key Table is given, by the aid of which teachers will be able to construct suitable tables of exercises for use with any given class. Attention is particularly directed to the prefatory note to the Key Table, which explains the order of the exercises which ought to be observed in giving a lesson.

Certain subsidiary matters may now be briefly referred to.

**Exercises  
suitable for  
children  
from 7 to 12  
years of age.**

25. The exercises in the syllabus are designed for the formal instruction of children roughly between seven and twelve years of age. In compiling them it is probable that the physical capabilities of children between those ages have been under, rather than over estimated. They may all be performed by either sex, and children of comparatively weak physique may safely take part in them. Vigorous exercises of the nutritive order, however, accomplish their effect in part by increasing the demand for the means of nutrition, and it is unfortunately true that in a considerable number of schools there is a certain percentage of children who, through insufficient or improper feeding, are not likely to derive much positive benefit from such exercises even if they do not suffer positive injury. As a rule such children, as well as those who are not likely to benefit from the exercises either through constitutional weakness or injury, may easily be picked out with a very little care on the part of the teacher, but it is not sufficient that they should simply be excluded from the exercises \* They should be excluded, of course, for the time being at all events, but such cases should also be reported without delay to the Education Authority in order that steps may be taken to find a remedy, where a remedy is possible. The breathing exercises in particular will at once disclose defects which should be reported without delay for medical advice or treatment. As regards the other children the only precaution which needs to be taken in ordinary circumstances is as follows:—

**Breathless-  
ness.**

26. Occasional short and violent efforts, even to the production of breathlessness, are made by all healthy children in natural play, and if the teacher is sure of the healthiness of the children, an occasional fifteen or twenty seconds of hard running or skipping is entirely good. But the regular appearance of breathlessness in a child during the performance of the exercises in this syllabus is a danger signal and an indication either that the child is too tightly clothed or that its health is such that the exercise should be much lessened for that particular child, and indeed that he should be medically examined.

\* When, from some malformation or for other reasons, many children are unable to perform the whole of the exercises with profit, they may be formed up behind the other scholars and allowed to take part in such exercises as will not prove injurious.

*Physical  
Exercises  
for Infant  
Classes.*

27. The instruction of infant classes, that is, generally speaking, of children under seven years of age, in physical exercises—as in other subjects—is a matter which, subject to general directions, may probably with advantage be left to the discretion of the teacher. It goes without saying that for such children periods of work at desks should be very short, and that intervals for play and kindergarten games should be frequent. Great attention should be given to securing proper positions at desk work, and breathing exercises and simple nutritive exercises should be practised steadily. Work on a small scale—such as sewing—which requires fine adjustment and great power of co-ordinated movement, is unsuitable for infants: on the other hand, free arm drawing, in the standing position, on blackboards or wall surfaces, may be regarded as a valuable variety of physical exercise for such children. If the foregoing matters are attended to, the question of whether there should be in addition formal periods of physical exercise in which some of the simpler exercises of the syllabus are regularly practised is relatively unimportant. When formal instruction in physical exercises is once begun great precision and accuracy should not be expected at first, as these are dependent on the co-ordinate use of a considerable number of accessory muscles, but reasonable rhythm and speed of movement should be aimed at.

*Physical  
Exercises  
for normal  
children  
over 12  
years of age.*

28. Normal children of from ten to twelve should be capable of performing all the exercises of this course with any required degree of precision. For older children variety of exercise and further educational effect may be obtained by the introduction of light dumb-bells, staves (or bar-bells) and Indian clubs. The list of balance exercises may also be increased by the introduction of a few simple forms of dance movements which are essentially of the same character and are of high intrinsic value as physical exercises. Swimming drill may also be used for the purpose of providing fresh material for exercises in the advanced classes.

*Additional  
Exercises.*

29. The syllabus is meant for general use and certain very important and valuable exercises which require for their performance a special dress, or a room which is not in use as an ordinary class-room have necessarily been excluded from the course proper. A few supplementary exercises, however, are given for use in those cases where the requisite facilities are forthcoming, and the list may easily be enlarged by teachers who desire to add to it for their own purposes. Teachers who are desirous of finding exercises suitable for pupil teachers and other older scholars who have already been sufficiently exercised in the present syllabus of exercises, or one which is roughly equivalent, might with advantage consult, along with other modern books, on the subject, the Handbook of Physical Training adopted by the Admiralty.

*Music with  
Exercises.*

30. Music should never be used as an adjunct to exercises which are being learned, but when they have become familiar such exercises as are adapted to musical rhythm may be taken with it. It should clearly be understood that whilst music gives liveliness to the performance it acts as a rhythmic stimulus and to some extent replaces the need of effort of the will. Thus whilst it saves fatigue, a very valuable thing with young children, it also detracts from the will training in muscular movements, diminishing the educational value of such movements. Except, therefore, in familiar exercises, such as marching, whose effect is chiefly nutritive, and in the dance movements referred to in section 28, it should not be used with the older children. Its greatest advantage where it can be used is in diminishing fatigue in the nutritive exercises, and for this reason it may generally be allowed in all exercises in infants' departments.

*Fresh Air  
during  
Exercises.*

31. During all exercises, and more especially during the few minutes of daily exercise, doors and windows should be opened so that whilst the children are in active movement the rooms may be well flushed with as much fresh air as possible. At the same time these exercises should never be omitted because for any reason this condition cannot be fulfilled. With proper nasal breathing any atmosphere that is good enough to live in will be good enough to exercise in.

**Dress.** 32. While the exercises included in the course are of such a nature as to admit of their being done in ordinary school dress, there is no question that the efficiency of many of the exercises would be greatly enhanced by the provision of suitable clothing and especially of suitable foot-gear. Such exercises as heels raising cannot properly be performed in heavy boots or clogs, and it is recommended that wherever possible a supply of gymnastic shoes should be made part of the school equipment. Special dresses for girls should be of such a nature that they may be worn as part of the everyday clothing, so that nothing beyond the removal of certain extra articles of clothing is required when engaging in physical exercise. The teacher should not omit to direct the attention of the girls to the injurious effect of tight underclothing.

**Separate Instruction for elder girls.** 33. It is strongly recommended that wherever possible the instruction in physical exercise for the older girls should be given by women teachers. This arrangement will afford a valuable opportunity for the giving of advice which could not otherwise be given, as to dress and the general care of health. Pupil teachers should, where possible, be drilled by an expert.

**Directions to Teachers.** 34. All exercises should be taught as far as possible by illustration, the teachers either performing the movements themselves or causing them to be performed by a smart scholar placed in front of the class.

35. The teachers' directions for the performance of the exercises should be clear and concise. Provided that they are correct and sufficient, and are clearly understood by the scholars, they need not necessarily follow the exact words of the syllabus.

36. The teachers should be able to give the lessons without reference to the syllabus. This will save much valuable time; the instruction will not become tedious to the scholars, and a greater number of exercises may be practised in the time set apart for the work than will be the case when interruption occurs owing to reference to the syllabus. When once the exercise has been learned, the lesson should proceed as far as possible without interruption, so that as much actual exercise as possible may be derived from the lesson period. The habit of mechanically repeating directions before each movement, without considering whether the directions are really required, should be avoided.

37. All exercises should be performed at first to distinct words of command, but as progress is made by the scholars, numbers and judging the time may be substituted. In the end the exercises during a lesson should proceed continuously with as little interruption as possible from the giving of directions.

38. When words of command are used those given in the margin in the syllabus should be adhered to. For this purpose these commands should be thoroughly memorised, inasmuch as inaccurate, halting or indistinct words of command lead to slackness and hesitation on the part of the scholars. Numbers may be used when a movement is repeated.

39. Every command should be preceded by a caution. The cautionary part should be given slowly and distinctly, while the executive part, which in general should consist of only one word, should be given sharply, or slowly and smoothly, as the nature of the exercise may require. A distinct pause should be made between the caution and the executive word, as *Class—Halt; Right—Turn*.

40. The command *As You Were* should be used whenever for any reason the teacher desires to repeat a movement. This will be found particularly useful when a movement is begun or carried out imperfectly, or where a class fails to move simultaneously or with sufficient smartness.

41. No individual correction should be made when the class is in a strained position. Where individual correction is needed, the command *As You Were* or *Attention*, whichever is preferable, should be given in the first place.

42. All exercises should be repeated a certain number of times. For beginners four repetitions for any one exercise will not be excessive; in the more advanced classes the number of repetitions may be somewhat increased.

**Conclusion.** 43. Finally, there is no part of school work in which the spirit and intention of the teacher are so clearly reflected in the performance of the children as in physical exercise. The period of exercise may be made as short as may be necessary, but it should be throughout

purposeful. Every exercise should be performed with "intention," i.e. with distinct realisation of its purpose and with the requisite vigour and decision.

## PRELIMINARY—CLASS ARRANGEMENTS.

### 1.—Formation of a Class.

Scholars will be formed up in two ranks. They will take their places in succession, shortest on the right of the class, tallest on the left. The distance between scholars will be a hand's breadth at the elbow. Each scholar in the rear rank will cover a scholar in the front rank at a distance of two paces, the two scholars thus placed forming a *File*.

When the class consists of less than 12 scholars it will be formed up in one rank. In the early lessons young scholars may be placed in position by the teacher.

### 2.—The Position of Attention.

The body and head must be held erect, chin slightly drawn in, chest expanded, shoulders square to the front, and slightly drawn back, and eyes looking straight forward. The arms must hang easily, elbows to the rear, fingers and thumbs straight, close to one another, and touching the thighs; knees well braced back, heels closed, and toes turned out so as to form an angle of about 90 degrees; weight of body on the fore part of the feet. (Fig. 1.)

It should be remembered that the position of *Attention* is one of strain, and scholars should, therefore, never be kept in this position for more than half a minute at a time.

### 3.—Standing at Ease.

*Stand at Ease*.—Keeping the body and head erect, chest expanded, shoulders slightly drawn back, and both legs straight, carry the left foot about one foot's length to the left, the weight of the body resting equally on the feet, and at the same time place the hands behind the back, the left hand resting against the body and grasping the fingers of the right hand lightly. (Fig. 2.)

*Class—Attention*.—Resume the position of *Attention* by carrying the left foot back to the right, at the same time bringing the arms smartly to the sides.

No deviation from the position of *Stand at Ease* will be permitted unless the command *Stand—Easy* is given, when the scholars may be permitted to move their limbs, but without quitting their places, so that on coming to *Attention* no one shall have lost dressing.

On the caution *Class* being given when the scholars are *Standing Easy*, they will at once assume the position of *Stand at Ease*.

When scholars fall in for instruction they should be taught to place themselves in the position of *Stand at Ease*. This will give the proper distance between the scholars in the same rank.

### 4.—Dressing a Class.

#### (a) In Ranks.

*Eyes Right—Dress*.—On the word *Dress* the scholars in the front rank, with the exception of the one on the right, will turn their heads smartly to the right and move by short, quick steps until they are all in line and at correct distances. The scholars in the rear rank will not look to the right, but will cover and correct their distances as those of the front rank take up their dressing.

*Eyes—Front*.—When the teacher sees that the ranks are straight, this command will be given. The scholars will then turn their heads and eyes smartly forward again.

#### (b) In File.

A class turned to the right or left, so that the scholars in each rank stand behind each other, is in *File, Single* or *Double* as the case may be.

*Class—Cover*.—On the word *Cover* the leading scholar or scholars will remain steady, and the others will at once place themselves directly behind those in front.

### 5.—Numbering.

*From the Right in Twos—Number.*—On the word *Number* the scholar on the right will call *One*, the next *Two*, and so on to the left, each scholar turning the head smartly to the left when numbering, and to the front again immediately afterwards.

In two ranks, the front rank only will number, the scholars in the rear rank taking the same numbers as those in front of them.

YOUNG CHILDREN should at first be made to prove their numbers as follows:—

*Number Ones (or Twos), Right Hand—Raise.*—On the word *Raise*, each of the *Ones* (or *Twos*), keeping the elbow at the side, will raise the right hand to the level of the waist.

*Class—Attention.*—Lower the hand smartly to the side.

### 6.—Stepping Forward.

*One Pace Forward—March.*—On the word *March*, keeping the body erect, without hesitation, and beginning with the left foot, the scholars will take one pace forward, counting \* two, i.e. “*One*” for the step and “*Two*” for bringing up the right foot.

### 7.—Stepping Backward.

*One Pace Backward—March.*—On the word *March*, keeping the body erect, without hesitation, and beginning with the left foot, the scholars will take one pace straight to the rear, counting \* two, i.e. “*One*” for the step and “*Two*” for bringing the right foot back.

Two or three paces forward or backward may be taken in the same manner, counting three for two paces, and four for three paces.

### 8.—Stepping Sideways.

*One Pace to the Left (or Right)—March.*—On the word *March*, keeping the body erect, the scholars will carry the left (or right) foot about 26 inches to the left (or right), bringing the fore part of the foot to the ground first and instantly closing the right (or left) foot to it, counting \* “*One*” for the stride, and “*Two*” on closing the heels.

*Stepping Sideways* can be practised only when a class is opened out, or in *File*, with ranks two paces apart.

### 9.—Marking Time (from the Halt).

*Quick Mark—Time.*—On the word *Time*, beginning with the left foot, the scholars will raise their feet alternately about three inches from the ground by bending the knees. The head, body and arms must be maintained in the position of *Attention*, and care taken that the scholars mark time without moving forward or backward; the heel should be first to leave and last to reach the ground.

*Class—Halt.*—On the word *Halt*, repeat the movement with each foot, counting \* *One ! Two !* resuming the position of *Attention* on the second movement.

### 10.—Turnings while Marking Time.

*Turning while Marking Time* is the easiest way of turning, and should be the method used for young children. They should be taught to turn to the *right* or *left* in two movements, and about in three.

### 11.—Turnings (at the Halt).

*By numbers, Right Turn—One.*—On the word *One*, keeping both knees well braced back and the body erect, turn a quarter circle to the right on the right heel and left toe, raising the left heel and right toe in doing so.

On the completion of this movement, the right foot must be flat on the ground, and the left heel raised, both knees braced back, and the weight of the body on the right foot.

\* The scholars should be taught to count silently for themselves, and only in exceptional circumstances permitted to count aloud.

*Two.*—On the word *Two*, bring the left heel smartly up to the right.

*Left Turn—One.*—On the word *One*, turn a quarter circle to the left on the left heel and right toe, raising the right heel and left toe in doing so.

On the completion of this movement, the left foot must be flat on the ground, and the right heel raised, both knees braced back and the weight of the body on the left foot.

*Two.*—On the word *Two*, bring the right heel smartly up to the left.

*Right (or Left) Half Turn—One.*—As before, turning half right (or half left).

*Two.*—As before.

*About Turn—One.*—On the word *One*, turn a half circle in the same manner as in the *Right Turn*.

*Two.*—As in *Right Turn, Two*.

As soon as the *Turnings* have been learned by numbers, they should be done without any pause between the movements on the executive word *Turn*, omitting the numbers, the commands being *Right—Turn*; *Left—Turn*; *Right Half—Turn*; *Left Half—Turn*; *About—Turn*.

## 12.—Opening and Closing Ranks.

The class will be assembled in two ranks, two paces apart, dressed and numbered in *Twos*.

*Right—Turn.*—The scholars will turn to the right.

*Ranks One Pace Outward—March.*—The front rank will take a side pace of 26 inches to the left, the rear rank a similar pace to the right, counting\* *One* for the stride, and *Two* on closing the heels, and then remain steady.

*Ones to the Left, Twos to the Right, One Pace—March.*—The *Ones* will take a side pace of 26 inches to the left, the *Twos* a similar pace to the right, counting \* *One !* *Two !* as above, and then remain steady.

*Class—Cover.*—As directed in 4 (b).

To close the ranks, reverse the movements, the commands being, *Ones to the Right Twos to the Left, One Pace—March*; *Ranks One Pace Inward—March*; *Class—Cover*, and then, if desired, *Left—Turn*. If marching is to be done immediately, the last command should be omitted, and the following given instead, *Rear Rank, One Pace to the Left—March*.

As soon as the scholars can perform the foregoing movements with precision, they will, when turned to the right, receive the command *Open Ranks—March*, or *Close Ranks—March*, when they will, without further order, smartly take the required number of side paces, counting\* *One !* *Two !*, *One !* *Two !*, and then remain steady until the order *Cover* is given.

In cases where the CLASS IS SMALL, or where only a narrow space is available, the class will be assembled in one rank, dressed and numbered in *Twos*, and the command, *Ranks, One Pace Outward—March*, will be omitted.

In cases where the CLASS IS TOO LARGE to be formed up in one division, or where the available space is broad and short, the class will be formed up in two divisions, one behind the other, at about six paces distance, each acting independently of the other on the word of command.

IF GREATER INTERVALS ARE REQUIRED than the above method allows, the class may take *Distance Forward* after turning to the right, as follows:—

*Distance Forward, Mark—Time.*—The scholars will mark time, and all except the leaders will gradually move backward until, by raising their arms forward, palms inward, their finger tips touch the backs of the shoulders of those in front.

*Class—Halt.*—The class will halt and the arms will be lowered smartly to the sides.

IN THE CASE OF YOUNG CHILDREN, opening ranks may be done as follows:—

After numbering, give the commands *Right—Turn, Ranks One Pace Outward—March*.

Then on the command *Ones, Left Arm, Twos, Right Arm—Raise*, the scholars will raise the arm indicated to the level of the shoulders, palms downward.

The arms will remain extended until the order *Ones to the Left, Twos to the Right, One Pace—March*, when the scholars will take one pace in the direction in which the arms are pointing, bringing the arms smartly to the sides as the feet come together.

\* See footnote on page 173.

### 13.—Dismissing a Class.

*Right—Turn.*—The scholars will turn to the right.

*Dis—miss.*—The front rank will take a side pace to the left, and the rear rank a side pace to the right, and, after a momentary pause, the scholars will disperse quietly.

## ELEMENTARY STARTING POSITIONS.

Every exercise must be done from a definite starting position. The following generally used positions are described here to save repetition later. They must be thoroughly taught, and in the early stages may be used as simple exercises. In addition to the positions here mentioned, any suitable position previously taught may be used as a starting position to an exercise. *Where no other position is stated in the exercises it is to be understood that they start from the position of ATTENTION.*

### 14.—Hips Firm.

*Hips—Firm.*—Raise the hands quickly and grasp the waist firmly just above the hips, fingers together in front and thumbs behind, palms pressed well down and elbows slightly drawn back. (Fig. 3.)

*Class—Attention.*—Lower the arms smartly to the sides.

### 15.—Neck Rest.

*Neck—Rest.*—Raise the arms quickly sideways and place the hands behind the upper part of the neck, finger-tips just meeting, chest well raised, head erect and elbows pressed well back. (Fig. 4.)

*Class—Attention.*—Lower the arms smartly to the sides.

Before taking the four following exercises the class should receive the order (a) *Hips—Firm* or (b) *Neck—Rest*.

### 16.—Feet Close.

*Feet—Close (One).*\*—Keeping the knees straight, raise the toes, and, by pivoting on the heels, close the feet. (See page 193.)

*Feet—Open (Two).*—Raise the toes and, by pivoting on the heels, open the feet again to the angle assumed when at *Attention*.

Later these movements may be done in quick succession on the command \**One, Two!* when the feet will be closed smartly and opened instantly to the proper angle.

The feet should be closed and opened before commencing the following exercises, in order to obtain correct position for their performance—*Knees Bending and Stretching, Preparation for Jumping, Lunge and Balance Exercises*.

### 17.—Feet Astride.

*Feet Astride—Place.*—Keeping the legs straight and the toes turned out, place the left foot smartly sideways one foot-length to the left, and then the right foot similarly to the right, balancing the body equally on the feet. (See page 193.)

*Feet Together—Place.*—Bring the left foot smartly back to its original position, and then immediately close the right foot to it.

### 18.—Foot Outward Place.

*Left Foot Outward—Place (One).*—Place the left foot smartly two foot-lengths outward in the direction in which the toe is pointing, the weight of the body resting equally on the feet. (See page 193.)

*Class—Recover (Two).*—Bring the left foot smartly back to the right.

Repeat with the right foot.

### 19.—Foot Forward Place.

*Left Foot Forward—Place (One).*—Place the left foot smartly two foot-lengths forward, keeping the toe turned out at its original angle and the weight of the body resting equally on the feet. (See page 193.)

\* Numbers should be employed only in the repetition of an exercise, and should be preceded by the caution *Repeat*. This restriction does not, however, apply to *Breathing Exercises*.

*Class—Recover (Two).*—Bring the left foot back smartly to the right.

Repeat with the right foot.

In these exercises when one foot is advanced, the command *Feet—Change* may be given, on which the foot in advance will be brought back to its original position and the other foot immediately placed outward or forward.

When the simple positions of the arms and feet are well known, the following combinations, done in one movement, may be practised. The movements are sufficiently indicated by the commands:—

### 20.—Feet Close, Hips Firm.

*With Feet Close, Hips—Firm.*

*Class—Attention.*

### 21.—Feet Close, Neck Rest.

*With Feet Close, Neck—Rest.*

*Class—Attention.*

### 22.—Foot Outward, Hips Firm.

*With Left Foot Outward, Hips—Firm.*

*Class—Attention.*

Repeat with the right foot.

### 23.—Foot Outward, Neck Rest.

*With Left Foot Outward, Neck—Rest.*

*Class—Attention.*

Repeat with the right foot.

### 24.—Foot Forward, Hips Firm.

*With Left Foot Forward, Hips—Firm.*

*Class—Attention.*

Repeat with the right foot.

### 25.—Foot Forward, Neck Rest.

*With Left Foot Forward, Neck—Rest.*

*Class—Attention.*

Repeat with the right foot.

In the four preceding exercises, when one foot is outward or forward, the command *Arms and Feet—Change* may be given, when the scholars will return to the position of *Attention*, and then immediately assume the corresponding position with the other foot outward or forward.

### 26.—Astride, Hips Firm.

Older children should reach this position in the following manner:—

*With Feet Astride, Hips—Firm.*—Keeping the arms by the sides, place the left foot to the left. Then place the right foot to the right, and at the same time place the hands on the hips.

The position of *Attention* should be resumed as directed below.

*Class—Attention.*—Keeping the hands on the hips, bring the left foot back to its original position. Then close the right foot to the left, and at the same time lower the arms to the sides.

### 27.—Astride, Neck Rest.

This position may be reached in a similar manner, the command being *With Feet Astride, Neck—Rest.*

*Note.*—When any position is to be reached on one command by one arm movement and two foot movements, or *vice versa*, it should be reached in two movements, a simple and a combined movement, the combined movement coming last.

## ARM FLEXIONS AND EXTENSIONS.

### 28.—Arms Downward Stretching.

*Arms—Bend (One).*—Keeping the chest expanded and the upper arms steady, bend the forearms quickly upward as far as possible, fists clenched and brought well back in line with the shoulders, wrist, bent and backs of the hands turned outward, the whole of the body being braced up to its fullest extent. (Fig. 5.)

*Downward—Stretch (Two).*—Stretch the arms smartly to the sides.

### 29.—Arms Forward Stretching.

*Arms—Bend One.*—As before.

*Forward—Stretch (Two).*—Stretch the arms smartly forward, wrist, and fingers straight, palms inward and arms parallel. (Fig. 6.)

*Arms—Bend.*—As before.

*Downward—Stretch.*—As before.

### 30.—Arms Sideways Stretching.

*Arms—Bend (One).*—As before.

*Sideways—Stretch (Two).*—Stretch the arms smartly sideways, in line with the shoulders, fingers and thumbs fully extended and close together, palms downward. (Fig. 7.)

*Arms—Bend.*—As before.

*Downward—Stretch.*—As before.

### 31.—Arms Upward Stretching.

*Arms—Bend (One).*—As before.

*Upward—Stretch (Two).*—Smartly stretch the arms directly upward to their fullest extent, the hands the width of the shoulders apart, fingers and thumbs straight and close together, palms inward. (Fig. 8.)

*Arms—Bend.*—As before.

*Downward—Stretch.*—As before.

When the above exercises have been mastered the command *Arms—Bend* may be omitted, but the scholars should make a momentary but distinct pause when the arms are in the *Bend* position, before reaching the *Stretch* position. The commands will then be *Arms Downward—Stretch*; *Arms Forward—Stretch*, and so on.

*Note.*—In the above exercises the command *Attention* may be given when the arms are stretched forward, sideways, or upward. The arms will then be brought to the sides in the shortest possible way.

### 32.—Arm Stretchings in Succession.

Older scholars may take these exercises in succession on one command, as is indicated below. The intermediate *Downward Stretching* should be omitted.

*Arms Forward and Upward—Stretch.*

*Arms Upward and Sideways—Stretch.*

*Arms Sideways and Downward—Stretch.*

Count to four in each of the above.

*Arms Forward, Upward, and Sideways—Stretch.*

*Arms Upward, Sideways, and Downward—Stretch.*

Count to six in each of the above.

*Arms Forward Upward, Sideways, and Downward—Stretch.*

Count to eight.

### 33.—Arms Stretching Upward and Downward Alternately.

STARTING POSITION—*Arms Bend.*

*Left Arm Upward, Right Arm Downward—Stretch.*—Stretch the arms smartly in the directions named, keeping the palms inward, wrists and fingers straight. (Fig. 9.)

*Arms—Bend (One).*—Resume the starting position.

*Right Arm Upward, Left Arm Downward—Stretch (Two).*—Stretch the arms as directed.

*Class—Attention.*—Lower the upstretched arm smartly to the side in the shortest possible way.

When the change of arms has been made at least once, it may be made again on the commands *One*, *Two*, following the caution *Repeat*. On the word *One*, the scholars will bend their arms, and on the word *Two*, reverse the stretching. When the scholars are proficient in this, the change may be made on the command *Arms—Change*, a momentary but distinct pause being made when the arms are in the *Bend* position.

### 34.—Astride, Arms Upward Stretching.

*With Feet Astride, Arms Upward—Stretch.*—Bend the arms and, at the same time, place the left foot to the left. Then stretch the arms upward and, at the same time, place the right foot to the right.

*Class—Attention.*—Bend the arms and, at the same time, bring the left foot back to its original position. Then stretch the arms downward and, at the same time, close the right foot to the left.

### 35.—Astride, Arms Sideways Stretching.

*With Feet Astride, Arms Sideways—Stretch.*—Bend the arms and, at the same time, place the left foot to the left. Then stretch the arms sideways and, at the same time, place the right foot to the right.

*Class—Attention.*—As in 34.

### 36.—Foot Outward, Arms Upward Stretching.

*With Left Foot Outward, Arms Upward—Stretch.*—Bend the arms. Then place the left foot outward, at the same time stretching the arms upward.

*Class—Attention.*—Bring back the left foot to its original position, at the same time lowering the arms to the sides in the shortest possible way.

Repeat with the right foot.

In this and the following exercise, when one foot is advanced and the arms stretched upward, the command *Arms and Feet—Change* may be given, when the arms will be bent and the foot brought back to its original position. Then immediately the other foot will be advanced and the arms again stretched upward.

### 37.—Foot Forward, Arms Upward Stretching.

*With Left Foot Forward, Arms Upward—Stretch.*—Bend the arms. Then place the left foot forward, at the same time stretching the arms upward. (Fig. 10.)

*Class—Attention.*—As in 36.

Repeat with the right foot.

## BALANCE EXERCISES.

### 38.—Heels Raising.

STARTING POSITION—*Hips Firm*.

*Heels—Raise (One).*—Keeping the body erect, legs straight, and heels together raise the heels quickly as high as possible. (Fig. 11.)

*Heels—Lower (Two).*—Keeping the knees straight, lower the heels slowly.

*Class—Attention.*—As before.

This exercise may also be done from the following positions in order:—  
(a) *Neck Rest*, (b) *Astride*, *Hips Firm*, (c) *Astride, Neck Rest*, (d) *Foot Outward, Hips Firm*, (e) *Foot Outward, Neck Rest*, (f) *Arms Upward Stretch*.

### 39.—Knees Bending and Stretching.

STARTING POSITION—*Hips Firm*.

*Heels—Raise (One).*—As in 38.

*Knees—Bend (Two).*—Keeping the trunk and head erect and heels together, bend the knees slowly outward until the thigh and lower leg form a right angle. (Fig. 12.)

*Knees—Stretch (Three).*—Straighten the knees slowly, keeping the heels raised.

*Heels—Lower (Four).*—As in 38.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Astride, Hips Firm.* (Fig. 13.)

Later the older boys may receive the command *Knees Full—Bend*, when the body will be lowered as far as possible.

#### 40.—Head Turning in Knees Bend Position.

*Head Turning* from side to side 78 (a) may be done in either of the *Knees Bend* positions, care being taken that correct position and balance of the trunk are maintained.

#### 41.—Arms Sideways Stretching in Knees Bend Position.

STARTING POSITION—*Arms Sideways Stretch.*

*Heels—Raise.*—As before.

*Knees—Bend.*—As before, keeping the arms stretched sideways.

*Arms—Bend (One).*—As before, keeping the head and body erect. (Fig. 14.)

*Sideways—Stretch (Two).*—Stretch the arms sideways.

*Knees—Stretch.*—Straighten the legs slowly without lowering the heels or the arms.

*Class—Attention.*—Resume the position of *Attention* in one movement by bringing the heels lightly to the ground as the arms are lowered to the sides.

#### 42.—Arms Upward Stretching in Knees Bend Position.

STARTING POSITION—*Arms Upward Stretch.*

*Heels—Raise.*—As before.

*Knees—Bend.*—As before, keeping the arms stretched upward.

*Arms—Bend (One).*—As before, keeping the head and body erect. (Fig. 14.)

*Upward—Stretch (Two).*—Stretch the arms upward, keeping the knees bent.

*Knees—Stretch.*—Straighten the legs slowly without lowering the heels.

*Class—Attention.*—Resume the position of *Attention* in one movement by bringing the heels lightly to the ground and the arms to the sides in the shortest possible way.

#### 43.—Leg Sideways Raising with Arms Sideways Raising.

*With Arms Sideways Raising, Left Leg—Raise (One).*—Raise the arms and at the same time slowly raise the left leg sideways to the left. The leg should be straight and the foot stretched away from the body.

*Arms and Leg—Lower (Two).*—Lower the arms and leg slowly to the position of *Attention*.

Repeat with the right leg.

#### 44.—Leg Sideways Raising.

STARTING POSITION—*Hips Firm.*

*Left Leg—Raise (One).*—Raise the leg slowly sideways to the left as high as possible without unduly disturbing the erect position of the body. (Fig. 15.)

*Leg—Lower (Two).*—Lower the leg slowly to its original position.

Repeat with the right leg.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Neck Rest.*

#### 45.—Knee Raising.

STARTING POSITION—*Hips Firm.*

*Left Knee—Raise (One).*—Bend the left knee slowly upward until the thigh is at right angles with the body, the lower leg hanging straight downward from the knee, toe pointing downward as far as possible, body erect. (Fig. 16.)

*Knee—Lower (Two).*—Lower the leg slowly to its original position.

Repeat with the right leg.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Neck Rest.*

**46.—Foot Bending and Stretching.**

*Foot Bending and Stretching* should be done in *Knee Raise* position. On the command *Foot Upward—Bend (One)*, bend the foot upward as high up as possible. *Downward—Stretch (Two)*, turn the toe downward again.

**47.—Knee Raising and Forward Stretching.**

STARTING POSITION—*Hips Firm.*

*Left Knee—Raise (One).*—As in 45.

*Leg Forward—Stretch (Two).*—Keeping the thigh raised as much as possible, slowly stretch the leg and foot forward. (Fig. 18.)

*Knee—Bend (Three).*—Resume position one.

*Knee—Lower (Four).*—Lower the leg slowly to its original position.

Repeat with the right leg.

*Class—Attention.*—As before

This exercise may also be done from the position of (a) *Neck Rest*.

**48.—Knee Raising and Backward Stretching.**

STARTING POSITION—*Hips Firm.*

*Left Knee—Raise (One).*—As in 45.

*Leg Backward—Stretch (Two).*—Keeping the body erect, slowly stretch the leg and foot to the rear, the toe pointing to the ground. (Fig. 17.)

*Knee—Raise (Three).*—Resume position One.

*Knee—Lower (Four).*—As in 45.

Repeat with the right leg.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Neck Rest*.

**SHOULDER EXERCISES.****49.—Arms Forward Raising.**

*Arms Forward—Raise (One).*—Raise the arms forward to the level of the shoulders, palms inward, elbows and fingers straight, arms parallel. (Fig. 6.)

*Downward—Lower (Two).*—Lower the arms to the sides.

**50.—Arms Sideways Raising.**

*Arms Sideways—Raise (One).*—Raise the arms sideways in line with the shoulders, fingers extended, and palms downward. (Fig. 7.)

*Downward—Lower (Two).*—Lower the arms to the sides.

(a) *Heels Raising at One and Lowering at Two* may be added later, the commands then being *With Heels Raising, Arms Sideways—Raise; Downward—Lower*.

**51.—Hands Turning.**

*Hands Turning* may be practised when the scholars are in the *Arms Sideways Raise* position. On the command *Hands—Turn* the palms will be turned upward or downward as the case may be.

**52.—Arms Forward and Upward Raising.**

*Arms Forward and Upward—Raise (One).*—Raise the arms forward as in 49, and continue the movement upward till the arms are in the *Upward Stretch* position. (Fig. 8.)

*Forward and Downward—Lower (Two).*—Lower the arms forward and downward to the sides, keeping the arms parallel and the palms inward.

**53.—Arms Sideways and Upward Raising.**

*Arms Sideways—Raise (One).*—As in 50.

*Upward—Raise (Two).*—Keeping the arms straight and well back, turn the palms smartly upward and immediately raise the arms until they are vertical above the shoulders. (Fig. 8.)

*Sideways—Lower (Three).*—Lower the arms sideways to the level of the shoulders, keeping the palms upward and arms well drawn back.

*Downward—Lower (Four).*—Turn the palms smartly downward and lower the arms to the sides.

After some practice the *Sideways and Upward Raising* should be done in one continuous movement on the command *Arms Sideways and Upward—Raise (One)* the palms being turned upward on passing the level of the shoulder. On the command *Sideways and Downward—Lower (Two)* the arms should be brought to the position of *Attention* by reversing the movement.

(a) *Heels Raising at One and Lowering at Two* may be added later, the commands then being *With Heels Raising, Arms Sideways and Upward—Raise; Sideways and Downward—Lower*.

#### 54.—Arms Circling.

*Arms Forward and Upward—Raise (One).*—Raise the arms slowly forward and upward as in 52.

*Sideways and Downward—Lower (Two).*—Keeping the arms well back, lower them sideways and downward as in 53.

(?) *Heels Raising at One and Lowering at Two* may be added later, the commands then being *With Heels Raising, Arms Forward and Upward—Raise; Sideways and Downward—Lower*.

#### 55.—Arms Flinging.

STARTING POSITION—*Arms Sideways Raise.*

*Forward—Bend (One).*—Keeping the upper arms steady and elbows well back, bend the lower arms forward and inward. The chest must be expanded throughout the exercise and the head kept erect, the hands should not touch the chest nor one another. (Fig. 19.)

*Sideways—Fling (Two).*—Fling the arms out vigorously to their fullest extent sideways, palms downward.

*Class—Attention.*—Lower the arms smartly and quietly to the sides.

When the arms are in the position of *Sideways Fling* the *Bending* and *Flinging* may be done in quick succession on the command, *One, Two!*

N.B.—When the scholars are well acquainted with the position of *Arms Forward Bend*, that position may be assumed in one movement from *Attention*, the command being *Arms Forward—Bend*. This position may then be used as a Starting Position as in Exercise 56.

#### 56.—Foot Forward, Arms Flinging.

STARTING POSITION—*Arms Forward Bend.*

*With Left Foot Forward, Arms—Fling (One).*—Place the left foot forward as in 19 and at the same time fling the arms sideways as in 55.

*Class—Recover (Two).*—Return to the starting position.

Repeat with the right foot.

*Class—Attention.*—Lower the arms smartly to the sides.

#### 57.—Arms Sideways Swinging.

STARTING POSITION—*Arms Forward Raise.*

*Sideways—Swing (One).*—Swing the arms sideways until they are in line with the shoulders, palms downward, arms well drawn back.

*Forward—Swing (Two).*—Swing the arms quickly forward to the first position, palms inward.

*Class—Attention.*—Lower the arms smartly to the sides.

#### 58.—Arms Forward and Sideways Swinging.

STARTING POSITION—*Arms Forward and Upward Raise.*

*Forward and Sideways—Swing (One).*—Swing the arms down smartly in front of and level with the shoulders, palms inward, arms fully extended, and without a pause force them back in line with the shoulders, turning the palms downward.

*Forward and Upward-Swing (Two).*—Keeping the arms extended swing them forward and upward to the first position.

*Class—Attention.*—Lower the arms smartly to the sides in the shortest possible way.

### 59.—Foot Forward, Arms Forward, and Sideways Swinging.

STARTING POSITION—*Arms Forward and Upward Raise.*

*With Left Foot Forward, Arms Forward and Sideways—Swing (One).*—As in 58, at the same time placing the left foot forward.

*Class—Recover (Two).*—Return to the starting position.

Repeat with the right foot.

*Class—Attention.*—Lower the arms smartly to the sides in the shortest possible way.

## LUNGE EXERCISES.

### 60.—Outward Lunging.

STARTING POSITION—*Hips Firm.*

*Left Foot Outward—Lunge (One).*—Keeping the right foot flat on the ground and the right leg straight, lunge out sharply with the left leg three foot-lengths in the direction in which the toe is pointing, left knee well bent, head and body inclined so as to be in line with the right leg. The scholars should look in the direction of the lunge without turning the body. (Fig. 20 and page 193.)

*Class—Recover (Two).*—Keeping the right leg straight, press sharply from the ground with the left foot and resume the starting position.

Repeat with the right foot.

*Class—Attention.*—As before.

When in the position of *Outward Lunge* or *Forward Lunge*, with *Hips Firm*, the command *Feet—Change* may be given. The heels will then be closed as in *Recover*, and the lunge repeated with the other foot. The change will be made in two distinct movements, making a slight pause when at the *Recover*.

### 61.—Outward Lunging, Arms Stretching Obliquely.

STARTING POSITION—*Arms Bend.*

*With Arms Stretching Obliquely, Left foot Outward—Lunge (One).*—Lunge outward as in 60, at the same time stretching the left arm upward and the right arm downward. The left arm should be kept well up and the right arm should be held parallel to it. (Fig. 21.)

*Class—Recover (Two).*—Bend the arms smartly and at the same time resume the starting position.

Repeat with the right foot, reversing the position of the arms.

*Class—Attention.*—As before.

When in any position of *Lunge* with arms stretched, the command *Arms and Feet—Change* may be given. The heels will then be closed and the arms bent as in *Recover*, and the lunge repeated with the other foot.

### 62.—Arms Upward Stretching in Outward Lunge Position.

STARTING POSITION—*Hips Firm.*

*Left Foot Outward—Lunge.*—As in 60.

*Arms—Bend (One).*—Bend the arms without altering the position of the body.

*Upward—Stretch (Two).*—Stretch the arms upward in line with the body. (Fig. 22.)

*Arms—Bend.*—As before.

*Hips—Firm.*—As before.

*Class—Recover.*—As in 60.

Repeat with the right foot outward.

*Class—Attention.*—As before.

### 63.—Outward Lunging, Arms Upward Stretching.

STARTING POSITION—*Arms Bend.*

*With Arms Upward Stretching, Left Foot Outward—Lunge.*—Lunge outward as in 60, and at the same time stretch the arms upward.

*Class—Recover.*—Bend the arms smartly, and at the same time resume the starting position.

Repeat with the right foot.

*Class—Attention.*—As before.

### 64.—Forward Lunging.

STARTING POSITION—*Hips Firm.*

*Left Foot Forward—Lunge (One).*—Keeping the right foot flat on the ground and the right leg straight, lunge straight forward with the left foot three foot-lengths, knee well bent, foot flat on the ground and turned out at its original angle; hips square to the front, head and body inclined forward so as to be in line with the right leg. (Fig. 23 and page 193.)

*Class—Recover (Two).*—Keeping the right leg straight and the foot flat on the ground, press sharply from the ground with the left foot and resume the starting position.

Repeat with the right foot.

*Class—Attention.*—As before.

### 65.—Forward Lunging, Arms Flinging.

STARTING POSITION—*Arms Forward Bend.*

*With Arms Flinging, Left Foot Forward—Lunge (One).*—Lunge forward as in 64, and at the same time fling out the arms sideways, palms downward.

*Class—Recover (Two).*—Recover from the lunge and at the same time bring the arms smartly to the starting position.

Repeat with the right foot.

*Class—Attention.*—Lower the arms smartly to the sides.

### 66.—Forward Lunging, Arms Forward and Sideways Swinging.

STARTING POSITION—*Arms Forward and Upward Raise.*

*With Arms Swinging, Left Foot Forward—Lunge (One).*—Lunge forward as in 64, and at the same time swing the arms forward and sideways.

*Class—Recover (Two).*—Recover from the lunge, and at the same time swing the arms forward and upward to the starting position.

Repeat with the right foot.

*Class—Attention.*—Lower the arms smartly to the sides in the shortest possible way.

### 67.—Arms Upward Stretching in Forward Lunge Position.

STARTING POSITION—*Hips Firm.*

*Left Foot Forward—Lunge.*—As in 64.

*Arms—Bend (One).*—Bend the arms without altering the position of the body.

*Upward—Stretch (Two).*—Stretch the arms upward in line with the body. (Fig. 24.)

*Arms—Bend.*—As before.

*Hips—Firm.*—As before.

*Class—Recover.*—As in 64.

Repeat with the right foot forward.

*Class—Attention.*—As before.

### 68.—Downward Bending in Forward Lunge Position.

STARTING POSITION—*Hips Firm.*

*Left Foot Forward—Lunge.*—As in 64.

*Arms—Bend.*—As before.

*Upward—Stretch.*—Stretch the arms upward in line with the body.

*Trunk Downward—Bend (One).*—Keeping the arms parallel to the head, bend forward and downward as far as possible. (Fig. 25.)

*Upward—Stretch (Two).*—Resume the upright position. (With older children the arms should lead the movement.)

*Arms—Bend.*—As before.

*Hips—Firm.*—As before.

*Class—Recover.*—As in 64.

Repeat with the right foot forward.

*Class—Attention.*—As before.

## HEAD AND TRUNK EXERCISES—FORWARD AND BACKWARD BENDING.

### 69.—Head Backward Bending.

STARTING POSITION—*Hips Firm.*

*Head Backward—Bend (One).*—Without altering the position of the trunk, bend the head slowly backward, care being taken that the chin is not pushed forward. (Fig. 26.)

*Upward—Stretch (Two).*—Drawing the chin well in, raise the head slowly to its former position.

*Class—Attention.*—As before.

### 70.—Trunk Forward Bending.

STARTING POSITION—*Hips Firm.*

*Trunk Forward—Bend (One).*—Bend the trunk slowly forward from the hips, chest fully expanded, head kept slightly back, eyes directed forward. (Fig. 27.)

*Upward—Stretch (Two).*—Slowly resume the starting position.

*Class—Attention.*—As before.

This exercise may also be done from the following positions in order:—(a) *Astride, Hips Firm*; (b) *Neck Rest*; (c) *Astride, Neck Rest*.

### 71.—Trunk Backward Bending.

STARTING POSITION—*Hips Firm.*

*Trunk Backward—Bend (One).*—Keeping the knees straight, bend the trunk backward slowly, the head commencing the movement, the whole of the spine being arched, eyes directed upward. (Fig. 28.)

*Upward—Stretch (Two).*—By reversing the former movement, raise the trunk and head slowly to their former position.

*Class—Attention.*—As before.

This exercise may also be done from the following positions in order:—(a) *Astride, Hips Firm*; (b) *Neck Rest*; (c) *Astride, Neck Rest*.

### 72.—Arms Flinging in Trunk Forward Bend Position.

STARTING POSITION—*Arms Sideways Raise.*

*Trunk Forward—Bend.*—Keeping the arms well stretched and horizontal, bend forward as in 70, the back well hollowed.

*Arms Forward—Bend (One).*—As in 55.

*Sideways—Fling (Two).*—As in 55.

*Trunk Upward—Stretch.*—Resume the starting position.

*Class—Attention*—As before.

### 73.—Arms Flinging in Trunk Backward Bend Position.

STARTING POSITION—*Arms Sideways Rais.*

*Trunk Backward—Bend.*—Keeping the arms well stretched and in line with the shoulders, bend the trunk backward as in 71.

*Arms Forward—Bend (One).*—As in 55.

*Sideways—Fling (Two).*—As in 55.

*Trunk Upward—Stretch*—Resume the starting position.

*Class—Attention.*—As before.

### 74.—Trunk Bending with Arms in Upward Stretch Position.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Forward—Bend (One).*—With the chest advanced, knees straight, and arms kept well up, bend slowly forward as in 70. (The extent of the bending should be increased gradually.) (Fig. 29.)

*Upward—Stretch (Two).*—Raise the trunk slowly to its former position, the arms leading the movement.

*Backward—Bend (Three).*—Keeping the arms stretched upward, bend the trunk backward as in 71, the arms leading. (The extent of the bending should be increased gradually.) (Fig. 30.)

*Upward—Stretch (Four).*—Still keeping the arms stretched, raise the trunk slowly to its former position.

*Class—Attention.*—As in 34.

### 75.—Trunk Downward Bending.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Forward—Bend (One).*—As in 74.

*Downward—Bend (Two).*—Bend the trunk downward, reaching out as far as possible with the arms in doing so, the arms being kept close to the head. (Fig. 31.)

*Forward—Stretch (Three).*—Raise the trunk again to the *Forward Bend* position, taking care to keep the back straight, to arch forward the chest, and to keep the arms by the head. (With older children the arms should lead the movement.)

*Upward—Stretch (Four).*—Raise the body slowly to the starting position.

*Class—Attention.*—As in 34.

### 76.—Arms Stretching in Trunk Forward Bend Position.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Forward—Bend.*—As in 74.

*Arms—Bend (One).*—As before.

*Arms Upward—Stretch (Two).*—Keeping the body quite steady and square to the front, knees straight, and chest well forward, head up and chin in, stretch the arms upward beside the head, taking care that the head maintains its position and is not bent down to meet the arms.

*Trunk Upward—Stretch.*—As before.

*Class—Attention.*—As in 34.

### 77.—Arms Stretching in Trunk Backward Bend Position.

STARTING POSITION—*Left Foot Forward, Arms Upward Stretch.*

*Trunk Backward—Bend.*—Bend the trunk slightly backward, the arms leading, shoulders and hips kept square to the front.

*Arms—Bend (One).*—As before.

*Arms Upward—Stretch (Two).*—As before.

*Trunk Upward—Stretch.*—Resume the starting position.

*Class—Attention.*—As in 36.

Repeat with the right foot forward.

## HEAD AND TRUNK EXERCISES—TURNING AND SIDEWAYS BENDING.

### 78.—Head Turning.

STARTING POSITION—*Hips Firm.*

*Head Left—Turn (One).*—Keeping the body erect and steady, turn the head slowly to the left as far as possible, looking in that direction. (Fig. 32.)

*Forward—Turn (Two).*—Turn the head slowly to its former position.

Repeat to the right.

*Class—Attention.—As before.*

(a) After some practice *Head Turning* may be done from side to side, the commands being *Head Left—Turn (One)*; *Right—Turn (Two)*; *Forward—Turn (Three)*.

Repeat, beginning on the right side.

### 79.—Trunk Turning.

STARTING POSITION—*Hips Firm.*

*Trunk Left—Turn (One).*—Turn the trunk slowly as far as possible to the left, the head keeping its position relative to the shoulders.

*Forward—Turn (Two).*—Turn the trunk slowly forward.

Repeat to the right.

*Class—Attention.—As before.*

This exercise may also be done from the position of (a) *Astride, Neck Rest* (Fig. 33); (b) *Feet Close, Neck Rest*.

### 80.—Trunk Turning with Arms in Upward Stretch Position.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Left—Turn (One).*—Keeping the arms stretched upward and the width of the shoulders apart, turn to the left as in 79.

*Forward—Turn (Two).*—Turn the trunk slowly forward, keeping the arms well stretched.

Repeat to the right.

*Class—Attention.—As in 34.*

### 81.—Arms Stretching in Trunk Turn Position.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Left—Turn.*—As in 80.

*Arms—Bend (One).*—As before.

*Upward—Stretch (Two).*—As before.

*Trunk Forward—Turn.*—Turn the trunk slowly forward, keeping the arms well stretched.

Repeat to the right.

*Class—Attention.—As before.*

### 82.—Trunk Turning, Arms Swinging.

STARTING POSITION—*Astride, Arms Upward Stretch.*

*Trunk Left—Turn.*—As in 80.

*Arms Right—Swing (One).*—Keeping the body erect, swing the arms smartly down in front of, and close to, the body and up to the right, turning the trunk to the right at the same time.

*Lefi—Swing (Two).*—Swing the arms smartly down to the front and up to the left, turning the trunk to the left at the same time.

*Forward—Turn.*—Turn the trunk slowly forward, keeping the arms well stretched.

Repeat, beginning on the right side.

*Class—Attention.—As before.*

### 83.—Trunk Sideways Bending.

STARTING POSITION—*Hips Firm.*

*Trunk to the Left—Bend (One).*—Bend slowly to the left, shoulders square to the front, eyes directed to the front, head held in position relative to the shoulders.

*Upward—Stretch (Two).*—Raise the trunk slowly to the upright position.

Repeat to the right.

*Class—Attention.—As before.*

The foregoing exercise may also be done from the following positions in order:—  
(a) *Feet Close, Hips Firm*; (b) *Feet Close, Neck Rest*; (c) *Astride, Neck Rest*. (Fig. 34.)

### 84.—Trunk Sideways Bending with Arms in Alternate Stretch Position.

*With Feet Close Arms—Bend.*—Perform the two movements simultaneously.

*Right Arm Upward, Left Arm Downward—Stretch.*—As in 33.

*Trunk to the Left—Bend (One).*—Bend the trunk slowly to the left, keeping the head square to the shoulders, the left arm close to the side, the right arm parallel to the head. (Fig. 35.)

*Trunk Upward—Stretch (Two).*—Raise the trunk to the upright position.

*Arms—Change.*—Bend the arms and reverse the stretching.

Repeat to the right.

*Class—Attention.*—Lower the upstretched arm smartly to the side in the shortest possible way.

### 85.—Trunk Sideways Bending with Arms in Sideways Stretch Position.

**STARTING POSITION—Arms Sideways Stretch.**

*Trunk to the Left—Bend (One).*—As in 83, taking care to keep the arms well stretched and in line with the shoulders.

*Upward—Stretch (Two).*—Raise the trunk to the upright position.

Repeat to the right.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Astride, Arms Sideways Stretch.* (Fig. 36.)

### 86.—Trunk Sideways Bending with Arms in Upward Stretch Position.

**STARTING POSITION—Astride, Arms Upward Stretch.**

*Trunk to the Left—Bend (One).*—As in 83, keeping the arms well stretched up and the hands the width of the shoulders apart. (Fig. 37.)

*Upward—Stretch (Two).*—Raise the trunk to the upright position.

Repeat to the right.

*Class—Attention.*—As in 34.

### 87.—Trunk Sideways Bending in Foot Forward Position.

**STARTING POSITION—Left Foot Forward, Neck Rest.**

*Trunk to the Left—Bend (One).*—As before.

*Upwards—Stretch (Two).*—As before.

*Class—Attention.*—Bring the left foot back to the right, and at the same time lower the arms smartly to the sides.

Repeat with the right foot forward, bending to the right.

## MARCHING.

THE LENGTH OF PACE will, of course, vary with the average size of the children in the class ; but the length of pace for the older scholars should be about twenty-six inches.

THE CADENCE or number of paces taken each minute should be :—In *quick time*, from 130 to 140 paces ; in *double time*, about 180 paces.

In marching the scholars must maintain the CORRECT POSITION of their heads and bodies, as directed in the position of *Attention*, and they must be well balanced on their legs. Their arms must swing naturally from their shoulders, the right arm swinging forward with the left leg, and the left arm with the right leg, the hand not to be swung in advance of the leading foot, nor across nor behind the body. The hand must not be raised higher than the waist ; and care must be taken that the shoulder and elbow joints work with perfect freedom.

THE MOVEMENT of the leg must spring from the haunch, and be free and natural. Both knees must be kept straight, except while the leg is being carried from the rear to the front, when the knee must necessarily be a little bent to enable the foot

to clear the ground. The foot must be carried straight to the front and placed firmly on the ground.

The class will be formed in file, the ranks being one pace apart, and having taken *Distance Forward* will receive the command *Quick—March*.

### 88.—The Quick March.

*Quick—March*.—On the word *March*, the scholars will step off together with the left foot, in *quick time*, marking the first pace by a beat with the left foot, and will continue to step a full pace, without increasing or diminishing their distances from one another. The leaders will march straight forward, the remainder covering correctly during the march.

### 89.—The Halt.

*Class—Halt*.—On the word *Halt*, the moving foot will complete its pace, and the other will be brought smartly up into line with it, counting\* *One, Two*, i.e. *One* for completing the pace, and *Two* for closing the heels.

### 90.—Changing Direction.

*Right (or Left)—Wheel*.—When marching in file, the leaders, on the word *Wheel*, will move abreast round a quarter of the circumference of a circle, having a radius of about three feet. The other scholars, in succession, will follow in the footsteps of those in advance without unduly increasing or diminishing their distances from one another or altering the time, but shortening the pace a little with the inner foot, as they wheel.

If a class is ordered to halt or mark time when a part only has wheeled into the new direction, the remainder will cover off, if required, by a diagonal movement on the command *Rear Files—Cover*.

### 91.—Marking Time from the March.

*Mark—Time*.—On the word *Time*, the foot then advancing will complete its pace, after which the cadence will be continued without advancing, by raising each foot alternately about three inches; the arms must not swing and the body must be kept steady.

*Class—Forward*.—On the word *Forward* the scholars will lead on with a full pace, making a smart beat with the left foot in doing so.

### 92.—Changing Step.

*Change—Step*.—To *Change Step* when marching, the advancing foot will complete its pace, and the ball of the rear foot will be brought up to the heel of the one in advance, which will then make another step forward, so that the cadence will not be lost, two successive steps being taken with the same foot.

This is necessary when part of a class, or a single scholar, is stepping with a different foot from the rest.

To change step when marking time, beat twice with the same foot.

### 93.—Turning About (on the March).

*About—Turn*.—On the word *Turn*, which should be given when the left foot is on the ground, each scholar will turn about to the right in three movements, and move forward, marking the fourth pace, which must be a full one.

### 94.—Marching with Heels Raised.

*With Hips Firm Heels—Raise*.—The command *Raise* being given as the left foot meets the ground, smartly assume the *Hips Firm* position as the right foot makes its pace, and as the next pace is taken, with a slight bend of the knee, rise on the fore part of the feet, the cadence remaining the same, but the length of the pace being slightly reduced. Care should be taken that the ranks are sufficiently far apart during the performance of this exercise.

\* See footnote on page 173.

*Arms and Heels—Lower.*—The command *Lower* being given as the left foot meets the ground, complete the next pace on the fore part of the right foot, lower the arms to the sides, and resume the ordinary *Quick March* on the left foot, beating it smartly on the ground to mark the change.

This exercise may also be done with the arms in the position of (a) *Neck Rest*, the command being *With Neck Rest, Heels—Raise*.

### 95.—Marching with Knees Raising.

*With Hips Firm, Knees—Raise.*—The command *Raise* being given as the left foot meets the ground, smartly assume the *Hips Firm* position as the right foot meets the ground, and, before the left foot again meets the ground, raise the left knee until the thigh is horizontal, toe pointed downward. As this pace is taken rise on the fore part of the feet, and then continue marching with heels raised and knees raising.

*Arms and Knees—Lower.*—The command *Lower* being given as the left foot meets the ground, raise the right knee as before, then lower the arms and resume the ordinary *Quick March* on the left foot, beating it smartly on the ground to mark the change.

### 96.—Marking Time with Knees Raising.

*Knees Raising* may also be done *Marking Time* instead of *Marching*.

### 97.—Marching with Hopping Alternately on the Left and Right Foot.

*With Hips Firm, on the Left Foot—Hop.*—The command *Hop* being given as the left foot meets the ground, smartly assume the *Hips Firm* position as the right foot makes its pace and, immediately after the left foot has again come to the ground, hop forward on the fore part of that foot a distance of about twelve inches, head erect, chest advanced, back hollowed; the right leg straight and kept well to the rear, toe pointed to the ground. Take a pace forward with the right foot and repeat the hop, the left leg straight and extended to the rear. Continue the hopping, changing feet at each hop, the intermediate stride being a shortened pace with heels raised.

*Quick March—Change.*—The command *Change* being given as the right foot meets the ground, complete the hop on that foot, and then taking a full pace forward with the left foot and beating it smartly on the ground, resume the ordinary *Quick March*, lowering the arms to the sides.

The scholars should be made to *hop as high as possible*, and to keep the heel well raised during the hopping movement. The upright position of the head and body must be maintained and the shoulders kept square to the front.

This exercise may also be done with arms in the position of (a) *Neck Rest*, the command being *With Neck Rest, on the Left Foot—Hop*.

### 98.—Double March.

*Double—March.*—The scholars will step off with the left foot in double time, running lightly on the fore part of the feet with as little noise as possible, care being taken that the heels do not touch the ground. At the same time they will raise their hands as high as the waist, fists clenched, backs of the hands outward. The arms should move backward and forward with freedom, care being taken that the hands are kept the width of the shoulders apart. The head must be kept erect and the shoulders square to the front. There must be no stiffness in the movement of the legs; thigh, knee, and ankle-joints all working freely. The feet must be well raised from the ground at each pace, which should not be less than 30 inches for the older scholars. The body should incline slightly forward. As the foot leaves the ground it should be carried straight to the front, care being taken that the heels are not kicked up behind.

*Class—Halt.*—As in 89, at the same time lowering the arms and resuming the position of *Attention*.

As a rule the *Double March* should be commenced from the *Quick March*, and be ended by a change into the *Quick March* again.

### 99.—Changing from Quick Time into Double Time and vice versa.

*Double March—Change.*—The command *Change* being given when the left foot meets the ground, the arms will be instantly raised and the change into double time made when the left foot next meets the ground.

*Quick March—Change.*—The command *Change* being given when the left foot meets the ground, the arms will be instantly lowered and the *Quick March* resumed when the left foot next meets the ground.

## JUMPING.

### 100.—Preparation for Jumping.

STARTING POSITION—*Hips Firm.*

*Prepare to—Jump.*—On the command *Jump*, perform the four movements of *Knees Bending and Stretching (heels raising, knees bending, knees stretching and heels lowering)*, in quick time, one after the other and without a separate command counting\* to four.

*Class—Attention.*—As before.

This exercise may also be done from the position of (a) *Astride, Hips Firm.*

### 101.—Astride Jumping.

STARTING POSITION—*Astride, Hips Firm.*

*Heels—Raise.*—As before.

*Astride—Jump.*—Slightly bend the knees, jump upward, straighten the knees and bring the heels together, alighting on the toes, with the knees slightly bent. By another jump return to the former position, and continue the movements at the same rhythm as the *Quick March*.

*Class—Steady.*—Bring the heels together, straighten the knees, and remain on the toes.

*Class—Attention.*—As before.

### 102.—Astride Jumping with Knees Bending.

STARTING POSITION—*Astride, Hips Firm.*

*Heels—Raise.*—As before.

*Knees—Bend.*—As in 39.

*Astride—Jump.*—Jump upward, straighten the knees and bring the heels together, alighting on the toes with knees slightly bent. By another jump return to the former position with knees well bent, and continue the movements.

*Class—Steady.*—Bring the heels together, straighten the knees, and remain on the toes.

*Class—Attention.*—As before.

### 103.—Upward Jumping.

Starting Position—*Hips firm.*

*Heels—Raise (One).*—As before.

*Knees—Bend (Two).*—As before.

*Upward—Jump (Three, Four).*—Stretch the knees quickly and spring upward from the ground, straightening the whole body in so doing and come down on the toes with the knees well out, and the body in full balance. The head and body should be kept erect during the whole movement.

*Knees—Stretch (Five).*—As before.

*Heels Lower (Six)*—As before.

*Class—Attention.*—As before.

After some practice the whole exercise should be made continuous and the six movements done to one command, viz., *Upward—Jump.*

### 104.—Upward Jumping with Arms Sideways Raising.

*With Arms Sideways Raising, Upward—Jump.*—Raise the heels and bend the knees as before. On the jump from the ground raise the arms quickly sideways,

\* See footnote on page 173.

to shoulder level, and lower them again quickly as the body alights on the toes. Stretch the knees and lower the heels as in 103.

The six movements should be continuous and done to one command as in 103.

### 105.—Upward Jumping with Turning.

*With Left (or Right) Turn, Upward—Jump.*—Raise the heels and bend the knees. On the jump from the ground, turn the body as directed and alight on the toes with the knees well out. Stretch the knees and lower the heels as before.

Repeat until the class faces the front again.

### 106.—Forward Jumping.

*With One Pace From the Left Foot—Jump.*—Step forward with the left foot, slightly bending the knee, and immediately jump forward, alighting on the toes with knees bent and coming to *Attention* in the manner indicated in *Upward Jumping* (103).

*With One Pace from the Right Foot—Jump.*—Step forward with the right foot, and proceed as above.

(a) Older children may take three paces before jumping, the command being *With Three Paces, from the Left (or Right) Foot—Jump.*

## DEEP BREATHING EXERCISES.

These exercises are of great value, and should form part of the daily training of every scholar. It is of great importance that the correct method of nasal breathing should be taught from the beginning of school life.

1. *For Infants*, a simple imitative exercise is the most easily acquired.

The infants, standing or sitting, and watching the teacher, place the left hand over the pit of the stomach and breathe in as she does, noticing the hand rise during inhalation. The child then breathes out slowly, the hand at the same time sinking. On each occasion the teacher must watch the class carefully, and note that all the mouths are firmly closed, and that all breathing is through the nostrils only.

This exercise should be repeated about six times at least twice daily.

2. *For Older Pupils*.

The teacher, starting from the position of attention, should see that all the mouths are firmly shut; then on the command *Breathe—In* (slowly given) instruct the pupils to breathe in slowly and deeply through the nostrils only, until the chest is fully expanded, then on the command *Breathe—Out* (slowly given) to breathe out quietly and steadily; this exercise should be repeated about ten times at least twice daily. When the exercise is repeated the commands *In, Out* only should be used.

*Note.*—Care must be taken that during inhalation the head and chest be not thrown too far back, nor the abdomen thrust forward.

When the exercise has been thoroughly acquired, it can be gradually combined with the slow arm movements, which bring into play the auxiliary muscles of respiration.

3. *Combined Breathing and Slow Arm Exercises.*

When a combined movement is used, the caution, *With Deep Breathing*, should always precede the command for the arm movements, e.g.—*With Deep Breathing, Arms Sideways—Raise.* The arm movements employed should follow the rhythm of normal respiration (inhalation, exhalation—pause; inhalation, exhalation—pause), &c., and the breathing act must not be made to follow any artificial or arbitrary rhythm like that of music. It is also impossible that all members of a class should do the movements in absolute unison, for no two persons breathe naturally exactly alike.

The most suitable arm movements to combine with the deep breathing exercises are:—

### 107.—With Deep Breathing—Arms Sideways Raising.

*With Deep Breathing, Arms Sideways—Raise (One).\**—Raise the arms as in 50,

\* See footnote on page 175—*Breathing Exercises.*

and at the same time breathe in slowly through the nostrils until the chest is fully expanded.

*Lower (Two).*—Breathe out naturally, and at the same time lower the arms to the sides.

(a) This exercise may also be combined with *Heels Raising*, the commands being *With Deep Breathing, Arms Sideways Raising, Heels, and Arms—Raise (One); Lower (Two)*.

### 108.—With Deep Breathing—Arms Sideways and Upward Raising.

(To be done as a continuous movement.)

*With Deep Breathing, Arms Sideways and Upward—Raise (One).*—Raise the arms as in 53, and at the same time breathe in slowly through the nostrils until the chest is fully expanded.

*Lower (Two).*—Breathe out naturally, and at the same time lower the arms sideways and downward.

(a) This exercise may also be combined with *Heels Raising*, the commands being *With Deep Breathing, Arms Sideways and Upward, Heels and Arms—Raise (One); Lower (Two)*.

### 109.—With Deep Breathing—Arms Circling.

*With Deep Breathing, Arms Circling—Raise (One).*—Raise the arms as in 52 and at the same time breathe in slowly through the nostrils until the chest is fully expanded.

*Lower (Two).*—Breathe out naturally, and at the same time lower the arms to the sides as in 54.

(a) This exercise may also be combined with *Heels Raising*, the commands being *With Deep Breathing, Arms Circling, Heels and Arms—Raise (One); Lower (Two)*.

*N.B.—Breathing Exercises* should always be taken at the end of a physical training lesson, in order to prepare for rest, and also to aid in the elimination of the carbonic acid accumulated by the repeated contractions of the muscles during the lesson. They may also with advantage be taken in the course of physical training lessons or other school work.

In connection with these exercises, the attention of the teacher is specially directed to section 8 of the Introduction.

## SPECIMENS OF SUPPLEMENTARY EXERCISES FOR CHILDREN OVER 12.

(VOLUNTARY.)

Attention is directed to section 28 of the Introduction, recommending, in the case of older children, the use of light dumb-bells, &c., in combination with certain of the exercises of the foregoing syllabus.

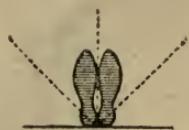
Appended are also a few specimens of useful exercises of another type which may be introduced for the older scholars at the discretion of the teacher where the requisite facilities are forthcoming. For the description of these exercises reference made to well-known handbooks of Physical Exercise.

Span bending with hands supported against wall.

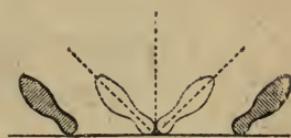
Span bending with hands supported by scholar.

Trunk bending in forward lying position.

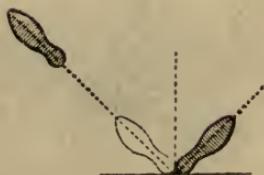
Trunk bending in sitting position.



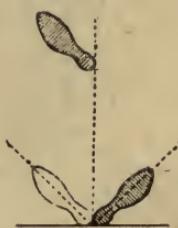
Feet Close.



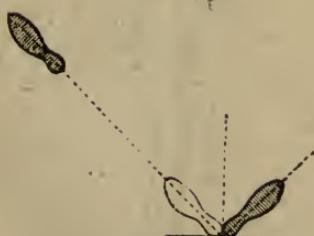
Feet Astride.



Foot Outward Place



Foot Forward Place.



Outward Lunge.



Forward Lunge.

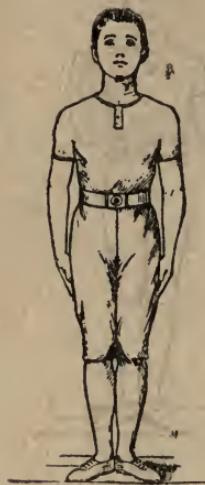


FIG. 1.  
Attention



FIG. 2.  
Stand at Ease.

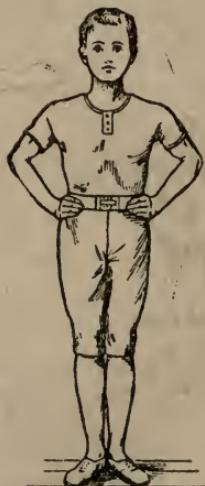


FIG. 3.  
Hips Firm.

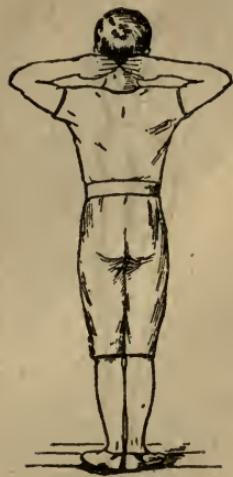
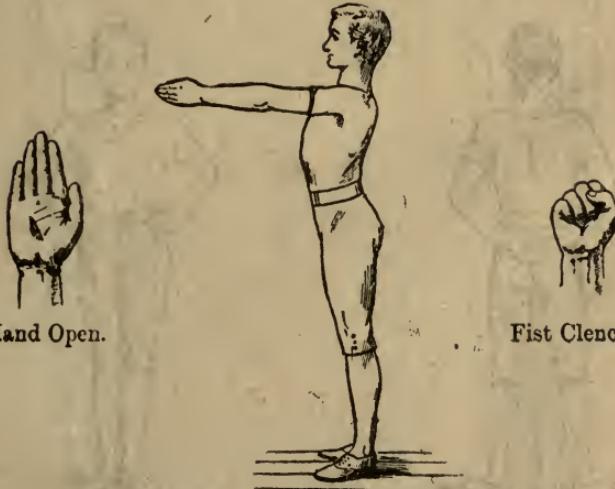


FIG. 4.  
Neck Rest.



FIG. 5.  
Arms Bend.



Hand Open.

Fist Clenched.

FIG. 6.  
(a) Arms Forward Stretch  
(b) Arms Forward Raise.

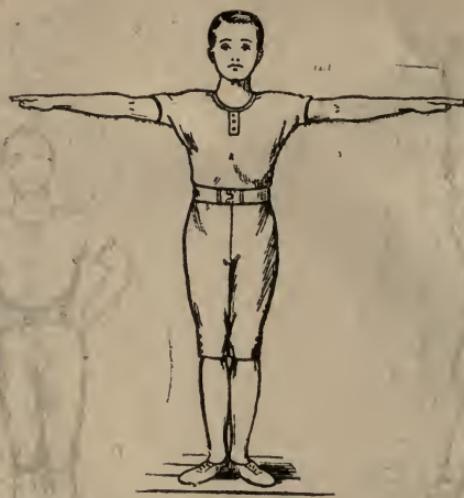


FIG. 7.  
(a.) Arms Sideways Stretch. (b.) Arms Sideways Raise



FIG. 8.  
(a.) Arms Upward Stretch.  
(b.) Arms Upward Raise.



FIG. 9.  
Arms Alternate Stretch.



FIG. 10.  
Arms Upward Stretch  
(Foot Forward).



FIG. 11.  
Heels Raise.

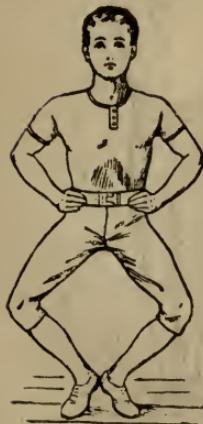


FIG. 12.  
Knees Bend.



FIG. 13.  
Knees Bend (Astride).



FIG. 14.  
Knees Full Bend,  
Arms Stretch.

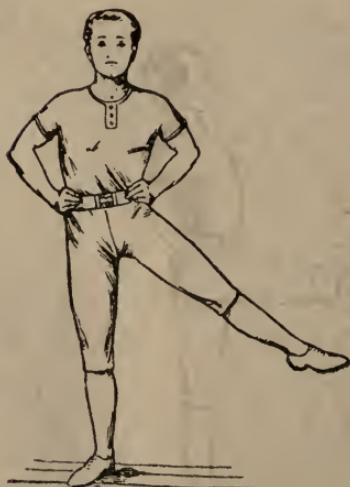


FIG. 15.  
Leg Sideways Raise.



FIG. 16.  
Knee Raise.



FIG. 17.  
Leg Backward Stretch.



FIG. 18.  
Leg Forward Stretch.



Arms Forward Bend  
*(Bird's-eye view).*

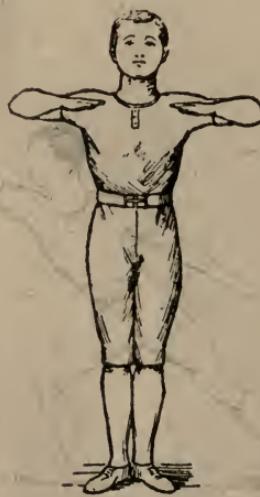


FIG. 19.  
Arms Forward Bend.



FIG. 20.  
Outward Lunge.



FIG. 21.  
Outward Lunge.  
Arms Stretch Obliquely.



FIG. 22  
Outward Lunge.  
Arms Upward Stretch.



FIG. 23.  
Forward Lunge.



FIG. 24.  
Forward Lunge.  
Arms Upward Stretch.



FIG. 25.  
Forward Lunge.  
Trunk Downward Bend.



FIG. 26.  
Head Backward Bend.



FIG. 27.  
Trunk Forward Bend



FIG. 28.  
Trunk Backward Bend.



FIG. 29.  
Trunk Forward Bend.  
(Astride, Arms Upward  
Stretch.)



FIG. 30.  
Trunk Backward Bend.  
(Astride, Arms Upward  
Stretch.)



FIG. 31.  
Trunk Downward Bend  
(Astride, Arms Upward Stretch.)



FIG. 32.  
Head Turn.



FIG. 33.  
Trunk Turn.  
(Astride, Neck Rest.)

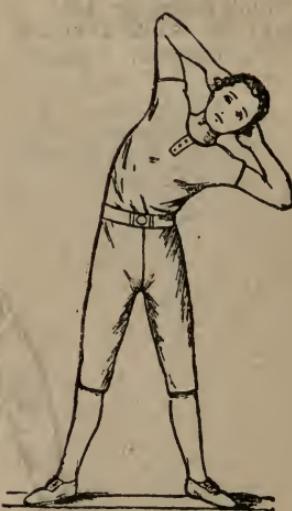


FIG. 34.  
Trunk Sideways Bend.  
(Astride, Neck Rest.)



FIG. 35.  
Trunk Sideways Bend.  
(Feet Close, Arms Alternate  
Stretch.)



FIG. 36.  
Trunk Sideways Bend.  
(Astride, Arms Sideways  
Stretch.)



FIG. 37.  
Trunk Sideways Bend.  
(Astride, Arms Upward Stretch )

## APPENDIX.

## Key Table of Exercises.

**NOTE.**—Before making use of this Key Table the teacher should be careful to make himself thoroughly acquainted with the objects of physical exercise, as explained in the introduction.

In this table the exercises are arranged in groups (I. to X.) according to the parts of the body they are intended to benefit. No special group has been set apart for Leg Exercises since these must necessarily come in Groups I., II., IV., VIII., and IX.

In each group the exercises are arranged progressively and in each are divided into three sections. Each complete section (Groups I. to X.) provides exercises for all parts of the body.

The first complete section consists of simple exercises and is suitable for children from 7 to 9 years of age. Perfection of position should be the principal aim in this section.

The second complete section cultivates co-ordination of movement and is suitable for children from 9 to 11 years of age.

The third complete section introduces exercises of greater difficulty and is suitable for children of 11 years of age and upwards.

Precision of movement should be cultivated in the second section and, as far as possible, perfected in the third.

In constructing a table of exercises for any class, the special defects of physique of the class should be borne in mind, and the exercises arranged accordingly. In all doubtful cases there should be a medical examination before the child is required to take part in the class exercises.

Exercises which may be done in the desks are marked by an asterisk, and a dagger is used to indicate those for which the scholars should first take a *half-turn*.

## Order of Exercises in a Lesson.

After the initiatory lessons which must necessarily be confined to exercises in one or two groups, each lesson should comprise at least one exercise taken from each of the ten groups in order.

For the first lessons the exercises marked A will, of course, be taken, and as the scholars become proficient, exercises marked B, C, &c., should be introduced into the lesson, though the earlier exercises should be practised frequently.

Fresh exercises should be introduced gradually, and it is imperative that no new exercise should be attempted until all the preceding exercises in the same group have been taught and well practised, for upon the practice of movements already familiar the corrective and nutritive value of Physical Exercise mainly depends.

The progress in the groups need not be at the same rate; thus a class might be practising in one lesson (refer to key table)—

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.
Young children ...	A	A to E J to L	C	F	D	A, B	D, G	C	A	B
Older children ...	B	A, B, L, M, O to R	F	Q	K	E	H, J	H	B	C

The change from one section to the next should be made gradually, changing in one group at a time.

The command *Stand at—Ease* should be given with young children at the end of every exercise, and with older children at the end of the exercises practised in each group.

The scholars should be taught to breathe freely during the performance of the exercises.

## FIRST SECTION.

## SECOND SECTION.

## THIRD SECTION.

## I.

## PLAY, RUNNING OR MARCHING.

A Play or running about.  
The children should, for a minute or two, be allowed to move about as they please.

## II.

## PRELIMINARY POSITIONS &amp; MOVEMENTS.

- \*A Attention. (2)
- \*B Standing at Ease. (3)
- †\*C Hips Firm. (14)
- \*D Feet close. (16)
- †\*E Neck Rest. (15)
- F Feet Astride. (17)
- G Foot Outward Place. (18)
- H Foot Forward Place. (19)
- I Stepping Sideways. (8)
- \*J Heels Raising. (38)
- K Right Turn and Right Half Turn. (11)
- L Left Turn and Left Half Turn. (11)

B Marching. (88)  
C Marching with Heels Raised. (94)

- M Stepping Forward. (6)
- N Stepping Backward. (7)
- †\*O Feet Close, Hips Firm. (20)
- †\*P Feet Close, Neck Rest. (21)
- Q Foot Outward, Hips Firm. (22)
- R Foot Forward, Hips Firm. (24)

D Practise all the above and introduce:  
Marching with Knees Raising. (95)

- S Foot Outward, Neck Rest. (28)
- T Foot Forward, Neck Rest. (25)
- U Astride, Hips Firm. (26)
- V Astride, Neck Rest. (27)
- W About Turn. (11)

*Note.*—Several of the above exercises should be practised in every lesson. Neck Rest positions are of particular importance.

## FIRST SECTION.

## SECOND SECTION.

## THIRD SECTION.

## III.

## ARM FLEXIONS AND EXTENSIONS.

- \*A Arms Downward Stretching. (28)
- \*B Arms Forward Stretching. (29)
- †\*C Arms Sideways Stretching. (30)
- \*D Arms Upward Stretching. (31)

*Practise the above and introduce :*

- \*E Arms Upward and Downward Stretching Alternately. (33)
- F Arms Stretching in Two Directions in Succession. (32)
- G Astride, Arms Upward Stretching. (34)
- H Astride, Arms Sideways Stretching. (35)

*Practise all the above and introduce :*

- I Arms Stretching in Three or Four Directions in Succession. (32)
- J Foot Outward, Arms Upward Stretching. (36)
- K Foot Forward, Arms Upward Stretching. (37)
- L Arms Upward Stretching in Outward Lunge Position. (62)
- M Arms Upward Stretching in Forward Lunge Position. (67)

## IV.

## BALANCE EXERCISES.

- \*A Heels Raising. (38)
- B Knees Bending and Stretching. (39)
- C Preparation for Jumping. (100)
- †\*D Heels Raising (Neck Rest). (38a)
- E Heels Raising (Astride, Hips Firm). (38b)
- F Heels Raising (Astride, Neck Rest). (38c)
- G Head Turning in Knees Bend Position. (40)
- H Knees Bending and Stretching (Astride). (39a)
- I Leg Sideways Raising, with Arms Sideways Raising. (43)
- J Knee Raising. (45)

*Practise the above and introduce :*

- K Heels Raising (Foot Outward, Hips Firm). (38d)
- L Heels Raising (Foot Outward, Neck Rest). (38e)
- \*M Heels Raising (Arms Upward Stretch). (38f)
- †\*N Arms Sideways Raising, Heels Raising. (50a)
- O Arms Sideways Stretching in Knees Bend Position. (41)
- P Knees Raising (Neck Rest). (45a)
- Q Foot Bending and Stretching. (46)
- R Leg Sideways Raising. (44)
- S Leg Sideways Raising (Neck Rest). (44a)

*Practise all the above and introduce :*

- †\*T Arms Sideways and Upward Raising, Heels Raising. (53a)
- U Arms Circling, Heels Raising. (54a)
- V Arms Upward Stretching in Knees Bend Position. (42)
- W Knee Raising and Forward Stretching. (47)
- X Knee Raising and Forward Stretching (Neck Rest). (47a)
- Y Knee Raising and Backward Stretching. (48)
- Z Knee Raising and Backward Stretching (Neck Rest). (48a)

## FIRST SECTION.

V.

SHOULDER EXERCISES  
AND LUNGES.

- \*A Arms Forward Raising. (49)
- +\*B Arms Sideways Raising. (50)
- +\*C Hands Turning. (51)
- +\*D Arms flinging. (55)
- \*E Arms Forward and Upward Raising. (52)
- +\*F Arms Sideways and Upward Raising. (53)

VI.

## TRUNK FORWARD AND BACKWARD BENDING.

- \*A Head Backward Bending. (69)
- \*B Trunk Forward Bending. (70)
- Trunk Backward Bending. (71)
- C Trunk Forward Bending (Astride). (70a).
- Trunk Backward Bending (Astride). (71a)

*Note* — Exercises bracketed should be taken in succession

## SECOND SECTION.

*Practise the above and introduce :*

- G Arms Circling. (54)
- H Arms Sideways Swinging. (57)
- I Arms Forward and Sideways Swinging. (58)
- J Foot Forward, Arms Flinging. (56)
- K Outward Lunging. (60)

*Practise the above and introduce :*

- D Arms Stretching in Trunk Forward Bend Position. (76)
- E Trunk Downward Bending. (75)
- F Arms Flinging in Trunk Forward Bend Position. (72)
- Arms Flinging in Trunk Backward Bend Position. (73)

## THIRD SECTION.

*Practise all the above and introduce :*

- L Foot Forward, Arms Forward and Sideways Swinging. (59)
- M Outward Lunging, Arms Stretching Obliquely. (61)
- N Forward Lunging. (64)
- O Forward Lunging, Arms Flinging. (65)
- P Forward Lunging, Arms Forward and Sideways Swinging. (66)
- Q Outward Lunging, Arms Upward Stretching. (63)

*Practise all the above and introduce :*

- +\*G Trunk Forward Bending (Neck Rest). (70b)
- Trunk Backward Bending (Neck Rest). (71b)
- H Trunk Forward Bending (Astride Neck Rest). (70c)
- Trunk Backward Bending (Astride Neck Rest). (71c)
- I Trunk Bending with Arms in Upward Stretching Position. (74)
- J Arms Stretching in Trunk Backward Bend Position. (77)
- K Downward Bending in Forward Lunge Position. (68)

## FIRST SECTION.

## SECOND SECTION.

## THIRD SECTION.

## VII.

TRUNK TURNING AND  
SIDWAYS BENDING.

- \*A Head Turning. (78)
- \*B Trunk Turning. (79)
- C Trunk Turning (Astride, Neck Rest). (79a)
- †\*D Trunk Turning (Feet Close, Neck Rest). (79b)
- \*E Trunk Sideways Bending. (83)
- †\*F Trunk Sideways Bending (Feet Close, Hips Firm). (83a)
- †\*G Trunk Sideways Bending (Feet Close Neck Rest). (83b)

## VIII.

## MARCHING.

- A Marking Time (From the Halt). (9)
- B Turnings while Marking Time. (10)
- C Quick March. (88)
- D Marking Time (From the March). (91)
- E Changing Direction. (90)

*Practise the above and introduce :*

- H Trunk Turning with Arms in Upward Stretch Position. (80)
- \*I Arms Stretching in Trunk Turn Position. (81)
- \*J Trunk Sideways Bending with Arms in Alternate Stretch Position. (84)
- K Trunk Sideways Bending with Arms in Sideways Stretch Position. (85)

*Practise the above and introduce :*

- F Changing Step. (92)
- G Turning about on the March. (93)
- H Marching with Heels Raised (94)
- I Double March. (98)
- J Changing from Quick Time into Double Time and *vice versa*. (99)
- K Marking Time, with Knees Raising. (96)

*Practise all the above and introduce :*

- L Trunk Turning, Arms Swinging. (82)
  - M Trunk Sideways Bending (Astride, Neck Rest). (83c)
  - N Trunk Sideways Bending with Arms in Sideways Stretch Position (Astride). (85a)
  - O Trunk Sideways Bending with Arms in Upward Stretch Position. (86)
  - P Trunk Sideways Bending in Foot Forward Position. (87)
- Note*—It is advisable to take a Trunk Turning and a Sideways Bending in each lesson.

*Practise all the above and introduce :*

- L Marching with Heels Raised (Neck Rest). (94a)
- M Marching with Knees Raising. (95)
- N Marching with Hopping Alternately on Left and Right Foot. (97)
- O Marching with Hopping Alternately on Left and Right Foot (Neck Rest). (97a)

## FIRST SECTION.

## SECOND SECTION.

## THIRD SECTION.

## IX.

## JUMPING.

A Preparation for Jumping. (100)

*Note*—Work from this Column should be omitted until the above exercise has been taught under IV.

## X.

## BREATHING EXERCISES.

Breathing Exercises without Arm Movements

With Deep Breathing, Arms Sideways Raising. (107)

\*A

+\*B

Practise the above and introduce:

B Astride Jumping. (101)  
C Upward Jumping. (103)

Practise the above and introduce:

With Deep Breathing, Arms Sideways and Upward Raising. (108)

D With Deep Breathing, Arms Circling. (109)

Practise all the above and introduce:

D Upward Jumping, with Turning. (105)

E Forward Jumping (One Pace). (106)

F Upward Jumping with Arms Sideways Raising. (104)

G Preparation for Jumping (Astride). (100a)

H Astride Jumping with Knees Bending. (102)

I Forward Jumping (Three Paces). (106a)

Practise all the above and introduce:

E With Deep Breathing, Arms Sideways Raising, Heels Raising. (107a)

F With Deep Breathing, Arms Sideways and Upward Raising, Heels Raising. (108a)

G With Deep Breathing, Arms Circling, Heels Raising. (109a)

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- ,, 6. Smaller Medium Hand, Double Ruling, with "height-lines"—Definitions, Proper Names, Geographical and Historical Facts.
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Circular 532 and List 6.

**THE INSPECTORS of the Board of Education as  
Allocated in Relation to the Local Education  
Authorities' Areas.**

August, 1905.

## CONTENTS.

	PAGES
Circular to Inspectors. (Circular 532)	215
List of Local Education Authorities, in Alphabetical Order, with the names of H.M. Inspector for the several areas	219
Training Colleges, Allocation of H.M. Inspectors for the inspection of	229
Schools of Art, Allocation of H.M. Inspectors for the inspection of	229
Women Inspectors	230
Special Subjects	230
Chief and Divisional Inspectors of the Board	231
H.M. Inspectors, with the Subordinate Inspecting Staff attached to each	232
Addresses of H.M. Inspectors ..	234
Addresses of the Junior Inspectors ..	237
Addresses of the Sub-Inspectors ..	238

**CIRCULAR TO INSPECTORS.**

In consequence of the many changes of educational areas, and also of the unification and co-ordination of all the various grades of education under county and county borough councils, brought about by the Education Act, 1902, the Board of Education have thought it desirable to amend the organisation of their inspection and administrative services in such a way as to bring into closer relations with one another the different officers who inspect and advise upon the various kinds of schools in each area, and also to enable Local Authorities more easily to obtain assistance or information from those officers, in respect of any particular department of their educational work.

For the convenience of the various officers, and to assist them in keeping in close touch with one another, the following new list is issued, showing the names of all H.M. Inspectors of Schools as now allocated in relation to the areas of the various Local Education Authorities—the latter being arranged in alphabetical order, for convenience of reference, and the present circular is issued with it, as it is desirable that the Board's officers should realise the principles of organisation of the service of which they are members, and should thus be able to assist effectively in the efforts of the Board to promote the best interests of educational organisation and development throughout the country.

There will now be nine geographical divisions of England, and one for Wales; it is intended that these shall be the same, for all purposes both of administration and of inspection, and for all grades of education in place of having, as hitherto, separate and overlapping divisions for elementary, secondary, and technical education.

For most administrative purposes, the nine English divisions are grouped into three groups, of three divisions each.

These nine divisions, with the counties comprised in each, are as follows:—

**A.—NORTHERN GROUP.**

**NORTH.**

Cumberland, Northumberland,  
Westmorland, Durham.

**NORTH-EAST.**

Lancashire and Cheshire. The Three Ridings of Yorkshire.

**B.—MIDLAND GROUP.**

**WEST CENTRAL.**

Salop, Staffs  
Hereford, Worc.  
Warwick, Glo'ster  
Oxon, Berks

**EAST CENTRAL.**

Derby, Notts  
Leicester, Rutland  
Northampton, Hunts  
Bucks, Beds, Herts

**EAST.**

Lincoln  
Cambridge  
Norfolk  
Suffolk  
Essex

## C.—SOUTHERN GROUP.

SOUTH-WEST.	METROPOLITAN.	SOUTH-EAST.
Devon, Somerset, Wilts Cornwall, Dorset	Middlesex London	Hants, Surrey Sussex, Kent

Wales and Monmouth constitute the Tenth Division.

For the inspection of training colleges the nine divisions are specially grouped into five groups, as shown on p. 229; so, also, for schools of art, as shown on p. 229; and for training schools for domestic subjects, as shown on p. 231.

In consequence of the very large number of public elementary schools existing in any area, as compared with the number of secondary schools, or of training colleges, or of technical institutions, the size of an inspection district for elementary school purposes must inevitably be comparatively restricted, and the number of such districts included within each of the nine divisions is therefore necessarily considerable; while each of the Inspectors who advise in regard to secondary schools, or training colleges, or technical institutions, as the case may be, is, of course, able to cover a much wider area, and thus a division need not be broken up into so many districts for these purposes. But in every case except where the exceptional size of a county has made it impossible for one officer to cover the whole ground in respect of elementary schools, it has been arranged that in the area of each Local Authority for higher education under Part II. of the Act there shall be one, and only one, of H.M. Inspectors responsible for each main type of school, in order to facilitate constant co-operation and co-ordination between the elementary and secondary and other schools in each case. It is hoped in this way to enable each county and county borough authority to confer more readily than has hitherto been possible, as to the condition of the various kinds of schools, and as to the needs of the different grades of educational provision, in their relation to one another, throughout their area, with those of the Board's officers who are severally conversant in a special degree with these different problems. The organisation of the various branches of the Board's inspecting service will be found on the later pages of the present volume (pages 229 to 231).

It is often urged, and at first sight the contention may seem plausible, that in place of the organisation above described it would be better that each one of the Board's Inspectors should inspect all the schools and institutions, of all sorts and kinds, in some one area, rather than concentrate his attention, in the main, upon one particular grade of education. It has been suggested that this would tend to secure better co-ordination of the various forms of education provided in that area. But it must be remembered that inspecting and reporting upon individual schools is by no means the sole function of the Board's inspectorate; and a closer consideration of the circumstances and problems of modern educational developments will show that such an arrangement would have many shortcomings, and that there are sound reasons why such an organisation has not, as a rule, been favoured in most countries of educational progress, so far as the Central Authority's officers are concerned.

It must indeed be conceded that the task of devising the most beneficial organisation of the State's Inspecting Service is no easy one, especially when (as in the case here under consideration) there is already existing a large machinery and staff created under, and for, very different conditions from those now prevailing. Under the great changes brought about by recent legislation, there now exists for every part of England and Wales a Local Education Authority charged with the duty of providing, or of securing and co-ordinating the provision of, efficient public education of all those particular grades and types which are needed for its particular local requirements. There now exists also one Central Department of the State, the Board of Education, whose functions have similarly been unified and extended, so that they now cover both the elementary, the secondary and the technological branches of national education, in their various aspects.

Now it is plain that, under modern conditions, the Central Authority and the Local Authority must have different functions to fulfil, in respect of the supervision of public education, and that friction and waste of energy cannot but ensue if this is not remembered, and if the respective spheres of each are not duly apportioned and recognised. It remains, then, to consider on what principle this apportionment may best be arranged.

It is obvious on the one hand that each Local Authority has to arrange and to supervise, usually through the agency of one official, the work of all the many different grades of school and forms of education that are needed in its area. It is to it a matter of paramount importance to secure that these are so arranged as to work organically and harmoniously together, each and all, in the general scheme of education in the area. It is thus the Local Authority's special duty to consider the supervision and provision of its various grades of education taken together, and in their relation to one another, within the given area. This is clearly in the main a local problem; it is indeed the local problem.

On the other hand it is the special province of the central authority, not merely to test the efficiency of all schools in respect of which it distributes Parliamentary grants, but also and in particular to organise efficient sources of educational information, and to disseminate in convenient fashion results, criticisms, and suggestions, derived from continuous recorded observation of educational experiments and of the daily work of the various kinds of schools and teachers. Such observation, to be authoritative, must in the case of each kind of school be *made over a wide area*. Now the very fact that the Board of Education has to supervise education of all grades over a large number of widely differing counties and county boroughs, makes possible for it, and for any one of its officers, an extensive field of observation which in the nature of the case no Local Authority, and no official restricted to one such area, can possess. Clearly, therefore, in a wise apportionment of functions between the Central and Local Authorities, this is one which naturally falls to the Board of Education, rather than to the Local Authority; and the Board must arrange the organisation of its inspecting service accordingly, so far as possible; and, in particular, must secure for each of its officers an area of observation as widely extended, geographically, as can be contrived.

But if each officer were required to inspect schools and educational institutions of all kinds he would necessarily be unable to cover a large area, or to see schools of different grades working under widely varying conditions and methods. If he had to inspect the elementary schools as well as the secondary schools, and the evening schools as well as both of these, not to mention also the training colleges, schools of art, technical institutions, &c., &c., he would obviously be unable to cover as a rule, more than one county or one county borough, and in many cases not even so much. The very large number of public elementary schools in each area is in itself a barrier to giving such an officer a district extending over two or three higher education areas. In such circumstances the Inspector would be at once restricted to seeing a very small number of secondary schools, to no more than one technical institute (if so much), and to, perhaps, one or at most two training colleges, and so forth. He would in fact be precluded from that wide horizon, in these respects, which is essential to an efficient system for information and observation purposes. Evidently, therefore, the Board of Education must so organise its Inspectorate as to avoid these limitations as far as possible. It must give its officers every advantage derivable from the opportunities it possesses for enabling them to study—and to a certain degree study separately and specially—the working of each grade or type of school *under widely varying conditions*. In this way the Board will be able, by careful allotment of different work to different officers, to consider the special problems of *each* of the different grades of education, with its own particular difficulties and aims and characteristics, as they present themselves in widely differing conditions—the easy and the difficult—under the best handling, the indifferent and the worst. For hints and suggestions are obtainable, in methods and in organisation, from failures and partial failures, as well as from successes. The Board will thus be enabled to collect and collate experience of varied kinds in respect of each grade of education in one central intelligence department for the benefit of Local Authorities, who in each case will apply it as may seem best for the circumstances of their area.

In this connection it must be remembered that the best methods of organising infants' schools and elementary schools, and the special problems that arise in reference to their curricula and other matters, as well as the qualifications and experience specially needed in those who are to appraise and report upon their working, are very different from similar methods and questions requiring consideration in the case of secondary schools on the one hand, and in evening schools or in technical institutions on the other. And the same is seen to be true if one contrasts the work of training colleges with that of schools of art, or of these with one another.

For, while it is true that the fundamental principles of good teaching, and the main bases of education, are practically the same for all grades of education (or, perhaps it should be said, of all education excluding the highly specialised or technical), yet the particular difficulties to be solved—whether those connected with class discipline or those arising from the very varied previous preparation of scholars and students—are of necessity widely different and require very different handling, according to the different ages of the pupils to be dealt with and the different qualifications of the teachers employed. This truth is specially obvious if one compares the work of technical institutes with that of other branches of public instruction. But it is also clear that for thoroughly testing the excellence or the efficiency of the education given in (say) an infants' school as compared with that in an elementary school for older scholars, the gauges properly applicable must differ very considerably. The same is true in respect of a secondary school, of the specialised but varied courses in a technical institution, of the definite and carefully balanced curriculum of a training college, and of such a congeries of diversified courses as is proper in

a large evening school. These differences are real and proper, as above stated, since both the aims and the subject matter of these different types of school and institution are, and should be, different. Nothing but waste and inefficiency can result from any confusion between them. Indeed, true co-ordination between the work of these different grades of school can only be secured by recognising their differences and thus securing a true adjustment of one to another.

Similarly, when a scientific study of aims and methods is in question, a certain degree of specialised experience and special qualification is needed in the officers who are to investigate and advise on any one of these several problems if there is to be a thorough appreciation and comprehension of the special excellencies, difficulties, and purposes which ought to characterise these different forms of education. For in education, as in other departments of modern life, it has become physically impossible for any individual to be abreast of modern standards of efficiency if he attempts too wide and varied a scope for his survey or investigation or practice. With due regard to what is common to many there must be careful study of what is properly special to each. It is only by adequate differentiation of functions that true co-ordination of efforts can be secured in any organisation of officers which is to be efficient in all its parts.

From these considerations, therefore, there emerges what must be the main purpose that the Board of Education should keep in view, in organising their Inspectorate in so far as is compatible with the requisite testing, on behalf of Parliament, of the work of the various institutions receiving grants from the Board. It must be organised in such a way that it shall be able constantly to collect, from over a wide area, a body of expert advice and information regarding the various methods, both of teaching and of organisation, which practical experience, in the many and varying conditions offered in the different parts of England and Wales, may show from time to time to be the best, in regard to the working of *each one* of the different grades and types of school, college, and institution that are needed for the varied educational requirements of the nation.

It will be the earnest endeavour of the Board of Education to place at the disposal of the different Local Education Authorities the information thus acquired in respect of each of the various forms of education, so that each grade of school may be assisted to fulfil in the highest degree its own particular and proper function in the organised and co-ordinated scheme of education in the different areas.

It is true, of course, that the importance of co-ordination, that is to say, the relation of each grade of school to the other forms of education of which it is (as the case may be) the preparatory or the final stage, must constantly be borne in mind by the Board's Inspectorate; but it must at the same time be remembered that, as we have seen above, this aspect of education is more especially the prime function of the *Local Authorities* in respect of their own areas respectively. Hence it is clear that what must be of paramount importance to the Central Authority is to arrange that *each* of the different grades or types of school—each one at its best, but under varying conditions—should be made a matter of special study in order to provide the best information possible on *each* of these various matters. And it is for these reasons that the Board are concentrating, for a time, upon each of the five main types of school or institution \* which fall within their sphere the attention of officers specially selected and experienced for these respective purposes.

At the same time, the Board of Education are anxious to do all in their power to assist each Local Authority to carry out the important duty laid upon it by Section 2 of the Education Act, "to promote the general co-ordination of all forms of education" throughout its area. And for this reason it is important that the different officers of the Board who are at work in any given area should confer frequently with one another. The various Divisional Inspectors will, it is hoped, in course of time, as a result of the improved organisation, be in possession of sufficient information and varied experience to be of great assistance to Local Authorities in this problem of co-ordination; and the Chief Inspectors of each branch are held specially responsible for bringing the work of the officers of the different branches into close and frequent contact, so that there may be constant interchange of views, and an avoidance of the many evils that would arise if there were any system of "water-tight compartments." With the same object opportunity will be given from time to time for the passing of officers temporarily or permanently from one branch to another, and for the interchange of assistance, for the same purpose, between the branches, since the investigation of one form of education is often of great service in elucidating the causes of defects in other parts of the system.

For these and other reasons Inspectors of each branch of the Board's service will frequently be called upon to give assistance, as circumstances or special qualifica-

\* Public Elementary Schools Secondary Schools, Training Colleges, Technical Institutions' Schools of Art.

tions may render desirable, in the work of the other branches. Thus the Inspectors of elementary schools will often assist in the inspection of pupil teacher centres\*; the Inspectors of schools of art will assist in the inspection of art classes, so far as expert assistance may be necessary; and the Women Inspectors will give much help and advice in the teaching of domestic subjects, and in many other ways (*see page 230*). Similarly, Mr. Dymond's advice will be at the disposal of other Inspectors and of Local Authorities in matters of rural education and agriculture, in different grades of schools (*see page 230*). And since the evening schools are the main means of continuing their education for very large numbers of people of widely different previous training, and often in advanced stages or in somewhat specialised directions, the services of officers in all branches of the Board's Inspectorate will be utilised, each one (so far as possible) in the subjects or methods in which he possesses special qualifications or experience, in the inspection of the evening schools in each area.†

But, while this mutual assistance and interchange may be widely practised, it has been considered best, for the general convenience of Inspectors, Local Authorities, and others who may use this list, to place within each column against the name of each area the name of the officer held primarily responsible in respect of that area for advising the Board of Education, and acting as the channel for personal communications with the Local Authority, concerning the grade of school\* named at the head of each column.

The Women Inspectors of the Board are not yet allocated permanently to particular geographical divisions, with the exception of those stated on page 230. Any special applications for their services should, for the present, be addressed to the Chief Woman Inspector at the Board's offices in London.

In conclusion, it must be stated that the Board of Education are anxious that H.M. Inspectors should place their knowledge of educational requirements and conditions at the disposal of Local Education Authorities as freely as possible, consistently with the proper discharge of their duties as officers of the Board of Education. Any authority desirous of having any special advice placed at its disposal, or any special form of educational survey carried out, by any of H.M. Inspectors, should be asked to apply to the Secretary of the Board (or to that one of the Chief Inspectors who is mainly concerned), when arrangements for meeting the request will be made, so far as circumstances in each case permit.

July, 1905.

ROBERT L. MORANT.

### List of Local Education Authorities in Alphabetical Order by Geographical Counties with the Names of H.M. Inspectors.

**NOTE.**—The names in black type (**BEDFORDSHIRE**) connote the Geographical County Area, not the Administrative County. The term "Autonomous Areas" in the following list denotes those boroughs and urban districts which are independent of the County Authorities so far as Part III. of the Education Act, 1902, is concerned. These are not named separately from the Geographical or Administrative County in which they are situated unless the Inspector is not the same for both. The County Boroughs are named in every case.

*For Inspectors of Training Colleges and of Schools of Art see page 229.*

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
<b>BEDFORDSHIRE.</b>	Colson, C. G.	Ball, E. J.	Westaway, F. W.
<b>BERKSHIRE.</b> Including READING, C.B.	Tremenheere, S.G.	Leicester, J.	Theodosius, C. E.
<b>BUCKINGHAMSHIRE.</b>	Kenney - Herbert, E. M.	Ball, E. J., Harris, A.	Westaway, F. W.
<b>CAMBRIDGESHIRE.</b> Including ISLE OF ELY	Rankine, A. (‡)	Harris, A.	Murray, H. J. R.

\* No changes will at present be made in the existing practice as regards the joint arrangements for inspecting Pupil Teacher Centres, or for investigating and making recommendations in respect of proposals for such centres.

† Further information as to the arrangements for the inspection of Evening Schools will be issued later.

(‡) The schools in Cambridge Borough will be inspected by Mr. W. E. Currey, temporarily, until Christmas, 1905.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
<b>CHESHIRE.</b> The County for ELEMENTARY EDUCATION .. ..	Howard, F. T.	Laws, J. P.	Lloyd, L. S.
The SEVEN AUTONOMOUS AREAS	Ward, H.		
BIRKENHEAD, C.B.	Ward, H.		
CHESTER, C.B. ..	Howard, F. T.		
STOCKPORT, C. B.	Ward, H.		
<b>CORNWALL.</b> Including the ISLES OF SCILLY.	Joad, E.	Creasey, C. H.	Phillips, T. W.
Assisted in the EASTERN PORTION (*) by .. ..	Cherrill, A.H.		
<b>CUMBERLAND.</b>	Freeland, F. A. S.	Hartley, J. W.	Stephens, T. A.
<b>DERBYSHIRE.</b> Including DERBY, C.B.	Grindrod, G. H. B.	Edwards, W. B. D.	Bridge, J. J. R.
<b>DEVONSHIRE.</b> The County for ELEMENTARY EDUCATION .. ..	Cowie, H.	Creasey, C. H.	Phillips, T. W.
Assisted in the NORTHERN PORTION (†) by ..	Routh, G. R. R.		
BARNSTAPLE ..	Routh, G. R. R.		
TIVERTON ..	Routh, G. R. R.		
TORQUAY ..	Cowie, H.		
DEVONPORT, C.B.	Dibben, H. F.		
EXETER, C.B. ..	Dibben, H. F.		
PLYMOUTH, C.B.	Dibben, H. F.		
<b>DORSETSHIRE.</b>	Gordon, G. H.	Brill, J.	Battiscombe, E. M.
<b>DURHAM COUNTY.</b> The County for ELEMENTARY EDUCATION .. ..	Leaf, J. F.	Hartley, J. W.	Stephens, T. A.
Assisted in the SOUTHERN PORTION (‡) by ..	Dean, H. J.		
DARLINGTON ..	Dean, H. J.		
DURHAM ..	Leaf, J. F.		
FELLING ..	Foster, J.		
HARTLEPOOL ..	Leaf, J. F.		
HEBBURN..	Foster, J.		
JARROW ..	Foster, J.		
STOCKTON-ON-Tees ..	Dean, H. J.		
<b>GATESHEAD.</b> C.B	Holmes, E. G. A.		
<b>SOUTH SHIELDS.</b> C.B. .. ..	Foster, J.		

(\*) i.e., the Rural Districts of Bodmin, Calstock, Camelford, Holsworthy, Launceston, Liskeard, St. Austell, St. Columb Major, St. Germans, and Statton, the urban districts of Looe, Newquay, Padstow, St. Austell, Stratton and Bude, and Wadebridge, and the boroughs of Bodmin, Launceston, Liskeard, Lostwithiel, and Saltash.

(†) i.e., the Rural Districts of Barnstaple, Bideford, Broadwoodwidger, Crediton, Culmstock, Holmworthy (except North Tamerton Parish), Okehampton, South Molton, Tiverton, Torrington; the Urban Districts of Bampton, Cockington, Compton Gifford, Crediton, Holsworthy, Ilfracombe, Lynton, Northam, and Okehampton, and the Boroughs of Bideford, Great Torrington, Okehampton, and South Molton.

(‡) i.e., the Rural Districts of Auckland, Barnard Castle, Darlington, Hartlepool, Sedgefield and Stockton, and the Urban Districts of Barnard Castle, Bishop Auckland, Crook, Shildon and East Thirkley, and Spennymoor.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
SUNDERLAND, C.B. WEST HARTLE- POOL, C.B. ..	Foster, J. Leaf, J. F.		
ELY, ISLE OF (see CAMBRIDGESHIRE)		Burrage, J. H.	Murray, H. J. R.
ESSEX.			
The County for ELE- MENTARY EDU- CATION ..	Pole, M.		
BARKING ..	Dugard, F.		
CHELMSFORD ..	Pole, M.		
COLCHESTER ..	Pole, M.		
EAST HAM ..	Dugard, F.		
HARWICH ..	Pole, M.		
ILFORD ..	Dugard, F.		
LEYTON ..	Dugard, F.		
SOUTHEND ..	Dugard, F.		
WALTHAMSTOW ..	Dugard, F.		
WEST HAM, C.B. ..	Dugard, F.		
GLoucestershire.		Leicester, J.	Theodosius, C. E.
The County for ELE- MENTARY EDU- CATION ..	de Sausmarez, F. B.		
BRISTOL, C.B. ..	Elliott, C. H. B.		
Gloucester, C.B.	de Sausmarez, F. B.		
HAMPSHIRE.		Hoffert, H. H.	Swain, W. R.
E L E M E N T A R Y E D U C A T I O N C O U N T Y (*) ..	Milman, W. C. G.		
Assisted in the SOUTH A N D SOUTH- EAST PORTION O F E L E M E N - T A R Y E D U C A - T I O N C O U N T Y (†) by ..		Fowler, R. M.	
T H E T H R E E A U T O N O - M O U S A R E A S ..	Fowler, R. M.		
BOURNEMOUTH, C.B. ..	Fowler, R. M.		
SOUTHAMPTON, C.B. ..	Fowler, R. M.		
PORTSMOUTH, C.B.	Fowler, R. M.		
ISLE OF WIGHT (Administrative County) .. ..	Burrows, E. H. Fowler, R. M.		
HEREFORDSHIRE.	Mines, H. R.	Leicester, J.	Theodosius, C. E.
HERTFORDSHIRE.	Wix, E. N.	Ball, E. J.	Westaway, F. W.
HUNTINGDONSHIRE.	Colson, C. G.	Ball, E. J.	Westaway, F. W.

(\*) i.e., the Rural Districts of Alvesford, Alton, Andover, Basingstoke, Catherington, Christchurch, Draxford, Fordbridge, Hartley Wintney, Hursley, Kingsclere, New Winchester, Petersfield, Ringwood, Romsey, South Stoneham, Stockbridge, and Whitchurch; the Urban Districts of Alton, Eastleigh, and Bishopstoke, Farnborough, Itchen, and Petersfield; and the Boroughs of Andover, Basingstoke, Christchurch, and Romsey.

(†) i.e., the Rural Districts of Fareham, Hayant, Lymington, and New Forest; the Urban Districts of Fareham, Hayant, and Warblington; and the Borough of Lymington,

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
KENT.		Gray, P. L.	Swain, W. R.
SOUTHERN PORTION OF ELEMENTARY EDUCATION COUNTY (*) ..	Hitchins, C. W. M.		
NORTHERN PORTION OF ELEMENTARY EDUCATION COUNTY (†) ..	Holt-White, R.		
BECKENHAM ..	Holt-White, R.		
BROMLEY ..	Holt-White, R.		
CHATHAM ..	Davies, J. H.		
DEAL ..	Davies, J. H.		
DOVER ..	Davies, J. H.		
ERITH ..	Holt-White, R.		
FAVERSHAM ..	Davies, J. H.		
FOLKESTONE ..	Davies, J. H.		
GILLINGHAM ..	Davies, J. H.		
GRAVESEND ..	Davies, J. H.		
MAIDSTONE ..	Davies, J. H.		
MARGATE ..	Davies, J. H.		
PENGE ..	Holt-White, R.		
RAMSGATE ..	Davies, J. H.		
ROCHESTER ..	Davies, J. H.		
TUNBRIDGE WELLS ..	Harrison, H. E. B.		
CANTERBURY, C.B.	Davies, J. H.		
LANCASHIRE.			
The County for ELEMENTARY EDUCATION ..	Richards, H. M.	N.—Fenton, M. A. E.—Laws, J. P.	N. & W.—Macnaughton, D. A. E.—Hards, W. B.
Assisted in the SOUTH-EASTERN PORTION (‡) by ..	Hinton, H. A.		
Assisted in the SOUTH-WESTERN PORTION (§) by ..	Irvine, H. W.		
ACCINGTON ..	Brewer, W. H.	Fenton, M. A.	Hards, W. B.
ASHTON - UNDER - LYNE ..	Hinton, H. A.	Laws, J. P.	Hards, W. B.
BACUP ..	Holman, H.	Fenton, M. A.	Hards, W. B.

(\*) i.e., the Rural Districts of Bridge, Cranbrook, Dover, East Ashford, Eastry, Elham, Hollingbourne, Isle of Thanet, Maidstone, Malling, Romney Marsh, Sevenoaks, Tenterden, Tonbridge, and West Ashford; the Urban Districts of Ashford, Broadstairs and St. Peter's, Cheriton, Sandgate, Sevenoaks, Southborough, Tonbridge, Walmer, Wrotham, and the Boroughs of Hythe, Lydd, New Romney, Sandwich, and Tenterden.

(†) i.e., the Rural Districts of Blean, Bromley, Dartford, Faversham, Hoo, Medway, Milton, Sheppen, and Strood; the Urban Districts of Bexley, Chislehurst, Dartford, Herne Bay, Milton, Northfleet, Sheerness, Sittingbourne, Whitstable; and the Borough of Queenborough.

(‡) i.e., the Rural Districts of Barton-upon-Irwell, Burnley, Bury, and Limehurst, and the Urban Districts of Audenshaw, Barrowford, Brierfield, Crompton, Denton, Droylesden, Failsworth, Heaton, Norris, Horwich, Hurst, Irlam, Kearsley, Lees, Levenshulme, Littleborough, Little Hulton, Little Lever, Milnrow, Norden, Padgram, Prestwich, Ramsbottom, Royton, Tottington, Trawden, Turton, Urmston, Wardle, Westhoughton, Whitefield, Whitworth, and Worsley.

(§) i.e., the Rural Districts of Chorley, Leigh, Preston (South of the Ribble), Sefton, Warrington (North of the Mersey), West Lancashire, Whiston, and Wigan, and the Urban Districts of Abram, Adlington, Allerton, Ashton-in-Makerfield, Aspull, Atherton, Billinge, Birkdale, Blackrod, Childwall, Croston, Garston, Golborne, Great Crosby, Haydock, Huyton-with-Roby, Lathom-with-Birscough, Leyland, Litherland, Little Crosby, Little Woolton, Much Woolton, Newton-in-Makerfield, Ormskirk, Orrell, Prescot, Rainford, Skelmersdale, Standish with Langtree, Tyldesley-with-Shakerley, Upholland, Walton-le-Dale, and Withnell.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
CHAIDERTON .....	Holman, H.	Laws, J. P.	Hards, W. B.
CHORLEY .....	Brewer, W. H.	Fenton, M. A.	Macnaughton, D. A.
CLITHEROE .....	Brewer, W. H.	Fenton, M. A.	Macnaughton, D. A.
COLNE .....	Brewer, W. H.	Fenton, M. A.	Hards, W. B.
DARWEN .....	Brewer, W. H.	Fenton, M. A.	Macnaughton, D. A.
ECCLES .....	Holman, H.	Laws, J. P.	Hards, W. B.
FARNWORTH .....	Smith, A. R.	Fenton, M. A.	Hards, W. B.
GORTON .....	Holman, H.	Laws, J. P.	Hards, W. B.
HASLINGDEN .....	Brewer, W. H.	Fenton, M. A.	Hards, W. B.
HEYWOOD .....	Holman, H.	Fenton, M. A.	Hards, W. B.
HINDLEY .....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
INCE .....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
LANCASTER .....	Richards, H. M.	Fentoo, M. A.	Macnaughton, D. A.
LEIGH .....	Smith, A. R.	Laws, J. P.	Hards, W. B.
MIDDLETON .....	Holman, H.	Laws, J. P.	Hards, W. B.
MORECAMBE .....	Richards, H. M.	Fenton, M. A.	Macnaughton, D. A.
MOSSLEY .....	Hinton, H. A.	Laws, J. P.	Hards, W. B.
NELSON .....	Brewer, W. H.	Fenton, M. A.	Hards, W. B.
RADCLIFFE .....	Smith, A. R.	Fenton, M. A.	Hards, W. B.
RAWTENSTALL .....	Holman, H.	Fenton, M. A.	Hards, W. B.
SOUTHPORT .....	Irvine, H. W.	Laws, J. P.	Macnaughton, D. A.
STRETFORD .....	Holman, H.	Laws, J. P.	Hards, W. B.
SWINTON .....	Holman, H.	Laws, J. P.	Hards, W. B.
WATERLOO .....	Iles, J. C.	Laws, J. P.	Macnaughton, D. A.
WIDNES .....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
BARROW, C.B. ....	Richards, H. M.	Fenton, M. A.	Macnaughton, D. A.
BLACKBURN, C.B. ....	Brewer, W. H.	Fenton, M. A.	Macnaughton, D. A.
BLACKPOOL, C.B. ....	Richards, H. M.	Fenton, M. A.	Macnaughton, D. A.
BOLTON, C.B. ....	Smith, A. R.	Fenton, M. A.	Macnaughton, D. A.
BOOTLE, C.B. ....	Iles, J. C	Laws, J. P.	Macnaughton, D. A.
BURNLEY, C.B. ....	Brewer, W. H.	Fenton, M. A.	Hards, W. B.
BURY, C.B. ....	Holman, H.	Fenton, M. A.	Hards, W. B.
LIVERPOOL, C.B. ....	Iles, J. C.	Laws, J. P.	Macnaughton, D. A.
MANCHESTER, C.B. ....	Kynnersley, E. M. Sneyd	Pullinger, F.	Hards, W. B.
OLDHAM, C.B. ....	Holman, H.	Pullinger, F.	Hards, W. B.
PRESTON, C.B. ....	Richards, H. M.	Fenton, M. A.	Macnaughton, D. A.
ROCHDALE, C.B. ....	Holman, H.	Pullinger, F.	Hards, W. B.
ST. HELENS, C.B. ....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
SALFORD, C.B. ....	Holman, H.	Pullinger, F.	Hards, W. B.
WARRINGTON, C.B. ....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
WIGAN, C.B. ....	Smith, A. R.	Laws, J. P.	Macnaughton, D. A.
LEICESTERSHIRE.	Lott, F. B.		Edwards, W. B. D
Assisted in NORTHERN PORTION (*)			Westaway, F. W.
by .....	Price, H.		
LOUDBOROUGH .....	Price, H.		
LEICESTER, C.B. ....	Lott, F. B.		
LINCOLNSHIRE.		Harris, A.	Bridge, J. J. R.
HOLLAND Adminis- trative County .....	Wilson, J.		
KESTEVEN Adminis- trative County .....		Oliver, R. D. M.	
LINDSEY Adminis- trative County .....	Wilson, J.		
Assisted in NORTHERN PORTION (†)		Pawle, C. D.	
by .....			

(\*) i.e., the Rural Districts of Barrow-upon-Soar, Belvoir, Billesdon, Hallaton, Loughborough, Melton Mowbray, and the Urban Districts of Melton Mowbray, Quorn, Shepshed, and Thurmaston.

(†) i.e., the Rural Districts of Glanford Brigg, Goole (Lincoln part), Grimsby, Horncastle, Isle of Axholme, Louth, Sibsey and Spilsby, the Urban Districts of Alford, Barton-upon-Humber, Brigg, Broughton, Brumby and Frodingham Cleethorpes with Thruvesoe, Crowle, Horncastle, Mablethorpe, Roxby-cum-Risby, Scunthorpe, Skegness, Winterton and Woodhall Spa, and the Borough of Louth.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
GRIMSBY, C. B. .	Pawle, C. D.		
LINCOLN, C. B. .	Wilson, J.		
LONDON, Administra- tive County ..	Airy, O.	<p>North of the Thames — Tutton, A. E. H.</p> <p>South of the Thames — Gray, P. L.</p>	<p>North of the Thames except Poplar and Stepney — Edwards, E. R.</p> <p>South of the Thames and Poplar and Stepney — Trayes, F. E. A.</p>
BATTERSEA ..	Graves, A. P.	Gray, P. L.	Trayes, F. E. A.
BEEMONDSBY ..	Winn, W. J. G.	Gray, P. L.	Trayes, F. E. A.
BETHNAL GREEN ..	Quilter, H. H.	Tutton, A. E. H.	Edwards, E. R.
CAMBERWELL ..	Winn, W. J. G.	Gray, P. L.	Trayes, F. E. A.
CHELSEA ..	Campagnac, E. T.	Tutton, A. E. H.	Edwards, E. R.
CITY ..	Eichholz, A.	Tutton, A. E. H.	Edwards, E. R.
DEPTFORD ..	Newton, A. W.	Gray, P. L.	Trayes, F. E. A.
FINSBURY ..	Quilter, H. H.	Tutton, A. E. H.	Edwards, E. R.
FULHAM ..	Campagnac, E. T.	Tutton, A. E. H.	Edwards, E. R.
GREENWICH ..	Newton, A. W.	Gray, P. L.	Trayes, F. E. A.
HACKNEY ..	Stevelly, R. S.	Tutton, A. E. H.	Edwards, E. R.
HAMMERSMITH ..	Helps, E. A.	Tutton, A. E. H.	Edwards, E. R.
HAMPSTEAD ..	Alexander, R. J.	Tutton, A. E. H.	Edwards, E. R.
HOLBORN ..	Eichholz, A.	Tutton, A. E. H.	Edwards, E. R.
ISLINGTON ..	Quilter, H. H.	Tutton, A. E. H.	Edwards, E. R.
KENSINGTON ..	Helps, E. A.	Tutton, A. E. H.	Edwards, E. R.
LAMBETH ..	Graves, A. P.	Gray, P. L.	Trayes, F. E. A.
LEWISHAM ..	Newton, A. W.	Gray, P. L.	Trayes, F. E. A.
PADDINGTON ..	Helps, E. A.	Tutton, A. E. H.	Edwards, E. R.
POPLAR ..	Stevelly, R. S.	Tutton, A. E. H.	Trayes, F. E. A.
SHOREDITCH ..	Wylie, J. H.	Tutton, A. E. H.	Edwards, E. R.
SOUTHWARK ..	Airy, O.	Gray, P. L.	Trayes, F. E. A.
ST. MARYLEBONE ..	Alexander, R. J.	Tutton, A. E. H.	Edwards, E. R.
ST. PANCRAS ..	Alexander, R. J.	Tutton, A. E. H.	Edwards, E. R.
STEPNEY ..	Wylie, J. H.	Tutton, A. E. H.	Trayes, F. E. A.
STOKE NEWING- TON ..	Stevelly, R. S.	Tutton, A. E. H.	Edwards, E. R.
WANDSWORTH ..	Campagnac, E. T.	Gray, P. L.	Trayes, F. E. A.
WESTMINSTER ..	Helps, E. A.	Tutton, A. E. H.	Edwards, E. R.
WOOLWICH ..	Newton, A. W.	Gray, P. L.	Trayes, F. E. A.
MAN, ISLE OF ..	Kynnersley, E. M. Sneyd		Hards, W. B.
MIDDLESEX ..		Tutton, A. E. H.	Edwards, E. R.
The County for ELE- MENTARY EDU- CATION ..			
ACTON ..	Streatfeild, E. C.		
CHISWICK ..	Streatfeild, E. C.		
EALING ..	Streatfeild, E. C.		
EDMONTON ..	Field, E. M.		
ENFIELD ..	Field, E. M.		
FINCHLEY ..	Field, E. M.		
HENDON ..	Field, E. M.		
HESTON ..	Streatfeild, E. C.		
HORNSBY ..	Field, E. M.		
TOTTENHAM ..	Field, E. M.		
TWICKENHAM ..	Streatfeild, E. C.		
WILLESDEN ..	Field, E. M.		
WOOD GREEN ..	Field, E. M.		
MONMOUTHSHIRE (see WALES).			

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
<b>NORFOLK COUNTY.</b> Including G R E A T YARMOUTH, C.B., & NORWICH, C.B. Assisted in WEST- ERN PORTION (*) by .. ..	Tillard, J.	Harris, A.	Murray, H. J. R.
KING'S LYNN ..	Parkinson, C. L. J. M.	Parkinson, C. L J. M.	
<b>NORTHAMPTON- SHIRE.</b> Including NORTH- AMPTON, C.B., & SOKE and BOROUGH OF PETERBOROUGH.	Cartwright, A.	Ball, E. J.	Westaway, F. W.
<b>NORTHUMBERLAND COUNTY.</b> The County for ELE- MENTARY EDU- CATION .. ..	Bertram, F. G. L	Hartley, J. W.	Stephens, T. A.
B R E W I C K - O N- TWEED ..	Bertram, F. G. L.		
WALLSEND ..	Bertram, F. G. L.		
NEWCASTLE, C.B.	Holmes, E. G. A.		
TYNEMOUTH, C.B.	Bertram, F. G. L.		
<b>NOTTINGHAMSHIRE.</b> Including NOTTING- HAM, C.B.	Dale, F. H. B.	Edwards, W. B. D.	Bridge, J. J. R.
<b>OXFORDSHIRE.</b> Including OXFORD, C.B.	Davidson, E. F.	Leicester, J.	Theodosius, C. E.
<b>PETERBOROUGH,</b> <b>SOKE OF</b> ( <i>see</i> <b>NORTHAMPTON- SHIRE</b> ).			
<b>RUTLAND COUNTY.</b>	Price, H.	Edwards, W. B. D.	Westaway, F. W.
<b>SHROPSHIRE.</b>	Ussher, B. G.	Jones, D. E.	Theodosius, C. E.
<b>SOMERSETSHIRE.</b> Assisted in NORTH EASTERN POR- TION (†) by ..	Fisher, A. B. (†)	Brill, J.	Battiscombe, E. M.
BATH, C.B. ..	Pryce, E. S. Mostyn Curry, R. F.	Jones, D. E.	Ferard, R. H.
<b>STAFFORDSHIRE.</b> The County for ELE- MENTARY EDU- CATION ..	Yarde, W. B. S.		
Assisted in SOUTH- WESTERN POR- TION (§) by ..	Piggott, H. H. Hudson, J. H.		

(\*) i.e., the Rural Districts of Docking, Downham, Freebridge Lynn, King's Lynn, Marshland, Swaffham, Thetford, Walsingham, and Wayland, the Urban Districts of Downham Market, New Hunstanton, Swaffham, Walsoken, and Wells, and the Borough of Thetford.

(†) Except Bath.

(‡) i.e., the Rural Districts of Bath, Clutton, Frome, Keynsham, Long Ashton, Shepton Mallet, Wells, Wincanton, and Yeovil, the Urban Districts of Clevedon, Frome, Midsomer Norton, Portishead, Radstock, Shepton Mallet, and Street, and the Boroughs of Glastonbury and Wells.

(§) i.e., the Rural Districts of Kingswinford, Seisdon, and Walsall, and the Urban Districts of Amblecote, Brierley Hill, Brownhills, Darlaston, Heath Town, Perry Barr, Quarry Bank, Sedgley, Short Heath, Tettenhall, Wednesfield, and Willenhall.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools, and Pupil Teacher Centres.
BURSLEM ..	.. Piggott, H. H.		
CANNOCK ..	.. Hudson, J. H.		
COSLEY ..	.. Hudson, J. H.		
FENTON ..	.. Piggott, H. H.		
HANDSWORTH ..	.. Hudson, J. H.		
LONGTON ..	.. Piggott, H. H.		
NEWCASTLE ..	.. Piggott, H. H.		
ROWLEY ..	.. Hudson, J. H.		
SMETHWICK ..	.. Hudson, J. H.		
STAFFORD* ..	.. Yarde, W. B. S.		
STOKE ..	.. Piggott, H. H.		
TIPTON ..	.. Hudson, J. H.		
TUNSTALL ..	.. Piggott, H. H.		
WEDNESBURY ..	.. Hudson, J. H.		
WOLSTANTON ..	.. Piggott, H. H.		
BURTON - ON - TRENT, C.B.	.. Hudson, J. H.		
HANLEY, C.B.	.. Piggott, H. H.		
WALSALL, C.B.	.. Hudson, J. H.		
WEST BROMWICH, C.B. ..	.. Hudson, J. H.		
WOLVERHAMPTON, C.B.	.. Hudson, J. H.		
SUFFOLK COUNTY.		Burrage, J. H.	Murray, H. J. R.
EAST SUFFOLK (Administrative County)	Swinburne, A. J.		
IPSWICH, C.B.	.. Swinburne, A. J.		
WEST SUFFOLK (Administrative County)	Claughton, H. W.		
SURREY COUNTY.		Hoffert, H. H.	Swain, W. R.
The County for ELEMENTARY EDUCATION ..	.. Colvill, J. C.		
GUILDFORD ..	.. Colvill, J. C.		
KINGSTON ..	.. Henderson, H. P.		
REIGATE ..	.. Colvill, J. C.		
RICHMOND ..	.. Henderson, H. P.		
WIMBLEDON ..	.. Henderson, H. P.		
CROYDON, C.B.	.. Henderson, H. P.		
SUSSEX COUNTY.		Hoffert, H. H.	Spencer, F.
EAST SUSSEX (Administrative County)	Gardner, G.		
BRIGHTON, C.B. (with HOVE)	Harrison, H. E. B.		
HASTINGS, C.B. ..	Gardner, G.		
WEST SUSSEX (Administrative County)	Burrows, E. H.		
WARWICKSHIRE.		Jones, D. E.	Ferard, R. H.
The County for ELEMENTARY EDUCATION ..	.. Campbell, J. G. D.		
ASTON MANOR ..	.. Green, F. T.		
NUNEATON ..	.. Campbell, J. G. D.		
LEAMINGTON ..	.. Campbell, J. G. D.		
SUTTON COLDFIELD ..	Green, F. T.		
WARWICK† ..	.. Campbell, J. G. D.		
BIRMINGHAM, C.B.	Green, F. T.		
COVENTRY, C.B. ..	Campbell, J. G. D.		

(\*) Stafford Borough has surrendered its autonomy and is merged in the County Authority.

(†) Warwick Borough has surrendered its autonomy and is merged in the County for Education purposes,

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
WEST MORLAND COUNTY.	Wynau-Williams, E.	Hartley, J. W.	Stephens, T. A.
WIGHT, ISLE OF ( <i>see</i> HAMPSHIRE.)			
WILTSHIRE. Assisted in SOUTH EASTERN POR- TION (*) by	Curry, R. F.	Brill, J.	Battiscombe, E. M.
SALISBURY ..	.. Hodson, G. S.		
SWINDON ..	.. Hodson, G. S.		
WORCESTERSHIRE.	Curry, R. F.		
DUDLEY, C.B. ..	Barrington-Ward M. J.	Leicester, J.	Ferard, R. H.
WORCESTER, C.B. ..		Jones, D. E. Leicester, J.	
YORKSHIRE.			
EAST RIDING Ad- ministrative County	Monro, L. T.	Saxandall, G. A.	Wager, H. W. T.
HULL, C.B. ..	Monro, L. T.		
YORK, C.B. ..	Howard, E. H.		
NORTH RIDING Ad- ministrative County	Wilson, S. R.	Baxandall, G. A.	Wager, H. W. T.
Assisted in EASTERN PORTION (†) and in the BOROUGH OF SCARBOROUGH by ..			
MIDDLESBROUGH, C.B. ..	Roberts, E. E.		
WEST RIDING ..	Wilson, S. R.	Baxandall, G. A.	Dufton, S. F. †
Administrative area for ELEMENTARY EDUCATION ..			
Assisted in NORTH- ERN PORTION (§) by ..	Marvin, F. S.		
Assisted in EASTERN PORTION (  ) by ..	Cornish, B. S.		
Assisted in SOUTH- ERN PORTION (¶) by .. ..	Howard, E. H.		
	Cape, F. W.		

(\*) i.e. the Rural Districts of Amesbury, Devizes, Marlborough, Mere, Pewsey, Ramsbury, Salisbury, Tisbury, Warminster, and Wilton, the Urban District of Warminster, and the Boroughs of Devizes, Marlborough, and Wilton.

(†) i.e. the Rural Districts of Guisborough, Helmsley, Kirkby Moorside, Pickering, Scarborough, Stokesley, and Whitby, the Urban Districts of Guisborough, Hinderwell, Loftus, Pickering, Redcar, Saltburn-by-the-Sea, Skelton and Brotton, and Whitby, and the Borough of Scarborough.

(‡) Wager, H. W. T., takes the secondary schools in the north-eastern and south-eastern divisions of the seven divisions into which the Local Authority divides the Riding for secondary school purposes.

(§) i.e. the Rural Districts of Bowland, Great Ouseburn, Keighley, Knaresborough, Pateley Bridge, Ripon, Sedbergh, Settle, Skipton, and Wharfedale, the Urban Districts of Baildon, Barnoldswick, Bingley (except Wilsden Sub-District), Burley in Wharfedale, Guiseley, Haworth, Horsforth, Ilkley, Knaresborough, Oakworth, Otley, Oxenholme, Rawdon, Silsden, Skipton, and Yeadon, and the Borough of Kipon.

(||) i.e. the Rural Districts of Bishoptonthorpe, Pontefract, Doncaster, Goole, Hemsworth, Hunslet, Selby, Tadcaster, Thorne (West Riding part of), and Wetherby, and the Urban Districts of Balby, with Hexthorpe, Bolton-upon-Dearne, Castleford, Featherstone, Goole, Knottingley, Methley, Mexborough, Rothwell (except Ardsley Sub-district), Selby, Tickhill, Wheatley, and Whitwood.

(¶) i.e. the Rural Districts of Barnsley, Kiveton Park, Penistone, Rotherham, and Wortley, and the Urban Districts of Ardsley, Clayton West, Cudworth, Dartfield, Darton, Denby, and Cumberworth, Dodworth, Farndale Tyas, Golcar, Greasborough, Gunthwaite and Ingibirthworth, Handsworth, Holme, Holmfirth, Honley, Hoyland Nether, Hoyland Swaine, Kirkburton, Kirkheaton, Lepton, Linthwaite, Marsden, Meltham, Monk Bretton, Netherthong, New Mill, Penistone, Rawmarsh, Royston, Saddleworth, Scammonden, Shelley, Shepley, Skelmanthorpe, Slaithwaite, South Crossland, Springhead, Stocksbridge, Swinton, Thurstonland, Wath-upon-Dearne, Whiteley Upper, Wombwell, and Worsborough.

Name of Area.	For Public Elementary Schools.	For Technological In- struction and Evening Schools.	For Secondary Schools and Pupil Teacher Centres.
BARNESLEY ..	Cape, F. W.		
BATLEY ..	Whitnell, C. T.		
BRIGHOUSE ..	Marvin, F. S.		
DEWSBURY ..	Whitnell, C. T.		
DONCASTER ..	Howard, E. H.		
HARROGATE ..	Cornish, B. S.		
KEIGHLEY ..	Cornish, B. S.		
MORLEY ..	Whitnell, C. T.		
OSSETT ..	Marvin, F. S.		
PONTEFRACT ..	Whitnell, C. T.		
PUDSEY ..	Turner, G. A.		
SHIPLEY ..	Turner, G. A.		
TODMORDEN ..	Marvin, F. S.		
WAKEFIELD ..	Marvin, F. S.		
BRADFORD, C.B. ..	Turner, G. A.	Pullinger, F.	Dufton, S. F.
HALIFAX, C.B. ..	Turner, G. A.	Pullinger, F.	Dufton, S. F.
HUDDERSFIELD, C.B. ..	Turner, G. A.	Pullinger, F.	Dufton, S. F.
LEEDS, C.B. ..	Whitnell, C. T.	Pullinger, F.	Dufton, S. F.
ROTHERHAM, C.B. ..	Turnbull, W. P.	Baxandall, G. A.	Wager, H. W. T.
SHEFFIELD, C.B. ..	Turnbull, W. P.	Baxandall, G. A.	Wager, H. W. T.

## WALES.

ANGLESEY.	Roberts, E.	Dufton, A.	Dufton, A.
BRECKNOCKSHIRE.	Jones, T.	Shaw, T. B.	Shaw, T. B.
CARDIGANSHIRE.	Darlington, T.	Dufton, A.	Dufton, A.
CARMARTHEN- SHIRE.	Bancroft, J.	Skirrow, B. B.	Skirrow, B. B.
CARNARVONSHIRE.	Roberts, E.	Dufton, A.	Dufton, A.
DENBIGHSHIRE.	Roberts, L. J.	Dufton, A.	Dufton, A.
LINTSHIRE.	Roberts, L. J.	Dufton, A.	Dufton, A.
GLAMORGANSHIRE The County for ELE- MENTARY EDU- CATION ..	Edwards, W.	Skirrow, B. B.	Skirrow, B. B.
ABERDARE ..	Edwards, W.	Skirrow, B. B.	Skirrow, B. B.
BARRY ..	Legard, A. G.	Shaw, T. B.	Shaw, T. B.
MERTHYR ..	Edwards, W.	Skirrow, B. B.	Skirrow, B. B.
MOUNTAIN ASH ..	Edwards, W.	Skirrow, B. B.	Skirrow, B. B.
NEATH ..	Legard, A. G.	Skirrow, B. B.	Skirrow, B. B.
PONTYPRIDD ..	Edwards, W.	Shaw, T. B.	Shaw, T. B.
RHONDDA ..	Jones, T.	Shaw, T. B.	Shaw, T. B.
CARDIFF, C.B. ..	Legard, A. G.	Shaw, T. B.	Shaw, T. B.
SWANSEA, C.B. ..	Edwards, W.	Skirrow, B. B.	Skirrow, B. B.
MERIONETHSHIRE.	Darlington, T.	Dufton, A.	Dufton, A.
MONMOUTHSHIRE. Including NEW- PORT, C.B.	Hughes, R. E.	Shaw, T. B.	Shaw, T. B.
MONTGOMERY- SHIRE.	Darlington, T.	Dufton, A.	Dufton, A.
PEMBROKESHIRE.	Bancroft, J.	Skirrow, B. B.	Skirrow, B. B.
RADNORSHIRE.	Jones, T.	Shaw, T. B.	Shaw, T. B.

## INSPECTION OF TRAINING COLLEGES.

M = Colleges for Men. W = Colleges for Women.

*Chief Inspector of the Board of Education for the Training of Teachers, Mr. P. A. Bennett, who inspects all Training Colleges for secondary school teachers, and all Training Colleges (except those in Wales) which are constituent parts of teaching Universities. These latter comprise Birmingham, M. and W.; Cambridge, M.; Leeds, M. and W.; Liverpool, M. and W.; London, King's College, M; London, Southampton-street, M. and W.; Manchester, M. and W.; Newcastle-on-Tyne, M. and W.; Oxford, M.*

The rest of the Training Colleges are allocated as follows:—

*Divisions.*

N., N.E., and N.W. Mr. Holmes—viz., Chester, M.; Darlington, W.; Durham, M.; Durham, W.; Edge-hill, W.; Liverpool, Mount Pleasant, W.; Ripon, W.; Salford, W.; Sheffield, Day, M. and W.; Warrington, W.; York, M.

W.C. Mr. Elliott—viz., Bristol, Fishponds, W.; Bristol, Day, M. and W.; Cheltenham, M.; Cheltenham, St. Mary's Hall, W.; Cheltenham, St. Helen's, W.; Culham, M.; Hereford, W.; Oxford, W.; Reading, Day, M. and W.; Saltley, M.

E.C. and E. Mr. Kenney-Herbert—viz., Bishop's Stortford, W.; Derby, W.; Homerton, Cambridge, W.; Lincoln, W.; Norwich, W.; Nottingham, Day, M. and W.; Peterboro', M.; Saffron Walden, W.

Metropolitan. Dr. A'ry—viz., Battersea, M.; Borough-road, Isleworth, M.; Chelsea, M.; Hammersmith, M.; Home and Colonial, Wood Green, W.; Kennington, W.; London, Grayskoke-place, Day, W.; London, New Cross, Day, M. and W.; North Kensington, St. Charles (formerly Wandsworth), W.; Southlands, Battersea, W.; Stockwell, W.; Tottenham, W.; Westminster, M.; Whitelands, Chelsea, W.

S.E. & S.W. Mr. Harrison—viz., Brighton, W.; Chichester, W.; Exeter, M.; Exeter, Day, M. and W.; Salisbury, W.; Southampton, W.; Southampton, Day, M. and W.; Truro, W.; Upper Norwood, Blind, M. and W.; Winchester, M.

Wales. Mr. Legard—viz., Aberystwyth, Day, M. and W.; Bangor, Day, M. and W.; Bangor, "Normal," M.; Bangor, "North Wales," W.; Cardiff, Day, M. and W.; Carmarthen, M.; Swansea, W.

*NOTE.*

Mr. H. Gordon assists in the inspection of all the colleges, especially in regard to the Science work. Mr. J. Lattimer inspects the Drawing in all the colleges. Miss Lawrence (Chief Woman Inspector), assisted by Miss Dickson, and some other Women Inspectors, will assist in the inspection of training colleges for women, especially in regard to the domestic arrangements for the students, and as to the teaching of Domestic Subjects.

## INSPECTION OF SCHOOLS OF ART.

*Chief Inspector of Schools of Art, Mr. S. J. CARTLIDGE.*

The Divisions are allocated as follows:—

N.	{ .. Mr. H. Allport.
N.E.	
N.W.	{ .. Mr. Suddards.
W.C.	
Wales	{ .. Mr. Suddards.
E.	
E.C.	{ .. Mr. E. H. H. Bruce.
S.W.	
S.E.	{ .. Mr. Morley Fletcher.
Metropolitan	

.. Mr. S. J. CARTLIDGE.

Inspectors of the Technological Branch will take the inspection of Art Classes, but will be given assistance by the Inspectors of Schools of Art so far as may be necessary.

## WOMEN INSPECTORS.

CHIEF WOMAN INSPECTOR—THE HON. MAUDE LAWRENCE.

Women Inspectors : Miss R. A. MUNDAY, Miss C. L. CALLIS, Miss K. M. HEALE, Miss L. E. WALTER, Miss A. F. HARRINGTON, Miss L. SPROULE, Miss I. A. DICKSON, Miss J. H. NOBLE, Miss SILLITOE, Miss E. F. BOULTON, Miss M. NICHOLSON.

Directress of Needlework : The Hon. Mrs. COLBORNE.

Assistant Directress : Miss J. F. SIMEON.

The Women Inspectors are not yet permanently allotted to any particular districts or divisions. They will assist in the inspection of infants' schools and classes, and of elementary schools for girls, and of mixed elementary schools; also of girls' and mixed pupil teacher centres. Some of them will inspect the Training Colleges for Women from time to time. Centres and classes (whether in schools or in training colleges) for Domestic Subjects, and the recognised training schools for these subjects, will be specially inspected from time to time by the following officers, under the direction of the Chief Woman Inspector :—

Miss SILLITOE,	N., N.E.
Miss NOBLE,	N.W. WALES.
Miss BOULTON,	W.C., S.W.
Miss NICHOLSON,	E.C., E.
Miss SPROULE,	Metrop., S.E.

## SPECIAL SUBJECTS.

H.M. Inspectors are responsible (with the co-operation of the Women Inspectors in certain cases) for the inspection of the whole of the instruction in Public Elementary Schools, but in some of the Divisions they are assisted by the following Sub-Inspectors in the Inspection of the Special Subjects named. These officers' duties are arranged by the Divisional Inspectors.

## DRAWING.

NAME.	DIVISION.
Capt. F. D. WALKER	N.E.
H. TUNALEY	E.C.
E. G. BAKER	S.E.

## MANUAL INSTRUCTION.

NAME.	DIVISION.
C. E. NEVILLE	N. and N.E.
S. CARRODUS*	N.W., W.C., E.C.
R. KEATE†	Metropolitan

## DRAWING AND MANUAL INSTRUCTION.

NAME.	DIVISION.
C. W. S. HUDSON A. W. GEFFCKEN A. TAYLOR	E. S.W. Wales and Monmouth.

\* Assisted by Mr. F. C. R. Frost, Sub-Inspector.

† Assisted by Mr. E. Gomersall, Sub Inspector.

FOR INSPECTION OF DOMESTIC SUBJECTS, SEE PREVIOUS PAGE.

RURAL EDUCATION AND AGRICULTURE.

One of the Inspectors of the technological branch, Mr. T. S. Dymond, acts as special Inspector and adviser in matters of rural education and for the teaching of agriculture. He is not attached to any particular district. Letters should be addressed to him at the Board's offices at South Kensington, and applications for his services should be addressed to the Chief Inspector for Technological Instruction at those offices.

CHIEF AND DIVISIONAL INSPECTORS.

*Communications to the Chief Inspectors should be addressed to them at the Offices of the Board of Education.*

FOR PUBLIC ELEMENTARY SCHOOLS.

CHIEF INSPECTOR:  
Mr. CYRIL JACKSON.

FOR TECHNOLOGICAL INSTRUCTION AND EVENING SCHOOLS.

CHIEF INSPECTOR:  
Mr. BUCKMASTER.

DIVISIONAL INSPECTORS:	
Mr. E. G. A. HOLMES	- - - N.
Mr. TURNBULL	- - - N.E.
Mr. SNEYD KYNNSERLEY	- - - N.W.
Mr. ELLIOTT	- - - W.C.
Mr. KENNEY-HERBERT	- - - E.C.
Mr. RANKINE	- - - E.
Mr. DIBBEN	- - - S.W.
Mr. HARRISON	- - - S.E.
Mr. AIRY	- - - Metropolitan
Mr. LEGARD	- - - Wales

DIVISIONAL INSPECTORS:

Mr. PULLINGER,
Mr. BALL.
Mr. BUCKMASTER,
Dr. HOFFERT.
CAPTAIN SHAW,

CHIEF INSPECTOR FOR SECONDARY SCHOOLS:

Mr. W. C. FLETCHER.

There are no Divisional Inspectors for Secondary Schools, as the number of these schools does not at present (as is the case in regard to Elementary Schools and Evening Schools) render it necessary that the Chief Inspector should have Divisional Inspectors through whom the detailed arrangements for the inspection of the schools in the different localities may be most effectively and economically brought about.

There are three Staff Inspectors not allocated to any particular district, viz.: Mr. HEADLAM, Mr. SCOTT, Mr. SPENCER. The Inspectors are given in the List of Areas in the foregoing pages.

There are two ladies, Miss DEGANI and Miss CROSBY, who are temporarily employed to assist in the inspection of Girls' Secondary Schools. They are not allocated to any particular districts.

CHIEF INSPECTOR FOR THE TRAINING OF TEACHERS:

Mr. P. A. BARNETT (*see page 229*).

CHIEF INSPECTOR FOR SCHOOLS OF ART:

Mr. S. J. CARTLIDGE (*see page 229*).

CHIEF WOMAN INSPECTOR:

The HON. MAUDE LAWRENCE (*see page 230*).

## LIST SHOWING THE SUBORDINATE INSPECTING STAFF ATTACHED TO EACH INSPECTOR.

*(See also page 230.)*

NOTE.—Junior Inspectors are shown in *italic* type, thus *Hartley, Harold*. Sub-Inspectors are shown in Roman type, thus Ainsworth, J. D. The figure (I) denotes that the officer is a Sub-Inspector of the First Class.

### INSPECTION OF ELEMENTARY SCHOOLS.

H.M. Inspector.	Subordinate Staff.	Page.
Airy, O.	Ainsworth, J. D., Dickenson, J.	224
Alexander, R. J.	Martin, W. (I)	224
Bancroft, J.	Williams, J. B., James, D.	228
Barrington-Ward, M. J.	<i>Hartley, Harold</i> , Day, J. C. R. (I), Hartley, T. C., Northrop, F.	227
Bertram, F. G. L.	Martin, H. (I), Ramshaw, R., Rennie, J. B., Eltringham, W. T.	225
Brewer, W. H.	Walsh, J. (I), Thomas, R. E.	222 & 223
Burrows, E. H.	Archard, T. (I), Sanderson, T.	226
Campagnac, E. T.	Parsons, J.	224
Campbell, J. G. D.	Howlett, T. (I), *Tomline, G. H., Southwick, T., Catherall, E.	226
Cape, F. W.	Brown, J. H., Brown, J. L.	227 & 228
Cartwright, A.	Taylor, H. (I), Harrison, T. (I), Salt, W. H. J.	225
Cherrill, A. H.	Lacey, A. H. (I)	220
Claughton, H. W.	Wheeler, G. H.	226
Colson, C. G.	Baldrey, W. (I), Fishwick, J.	219 & 221
Colvill, J. C.	Hodges, J. (I), Crossley, C. J. (I), Holden, J. E.	226
Cornish, B. S.	Thorpe, G. (I), Ridge, A.	227 & 228
Cowie, H.	Barclay, R. B., Bright, W., England, W. C.	220
Currey, W. E.	—	219+
Curry, R. F.	Norris, S., Dolman, W. H.	225 & 227
Dale, F. H. B.	Abbott, A., Hall, J. (I), Webster, B.	225
Darlington, T.	Johnson, T. H., Thomas, D.	228
Davidson, E. F.	Young, W. H., Butler, W.	225
Davies, J. H.	McGregor, J. McL.	222
Dean, H. J.	Eensor, E. (I)	220
De Sausmarez, F. B.	<i>Page, A. F.</i> , Waite, J. (I), Hole, F., Bulley, W. H.	221
Dibben, H. F.	Greet, J. H. E.	220
Dugard, F.	Goodyear, T. W. (I), Ridout, E.	221
Edwards, W.	Rees, J. (I), Holliday, S., Jones, G., Evans, J.	228
Eichholz, A.	—	224
Elliott, C. H. B.	<i>Wood, L. S.</i> , Bould, J.	221
Field, E. M.	Carter, E. H., Chadwick, E. H.	224
Fisher, A. B.	Turner, W. (I), Beck, C. (I)	225
Foster, J.	Jarman, J. R. (I)	220 & 221
Fowler, R. M.	Whittaker, R., Hicks, E. H.	221
Freeland, F. A. S.	Stuart, C., Thorpe, J. W.	220
Gardner, G.	Garland, C., Stevens, C. H.	226
Gordon, G. H.	Butt, T., Hands, W. J.	220
Graves, A. P.	Venables, T. H.	224
Green, F. T.	Challens, E. (I), +Tomline, G. H., Butler, R. P.	226
Grindrod, G. H. B.	Meggs, W. T. (I), Burton, W., Roberts, W. H., Dunn, A. H.	220
Harrison, H. E. B.	Bush, S. (I)	222 & 226
Helps, E. A.	Wade, G. (I), Foister, J. S. (I)	224
Henderson, H. P.	Shilton, F. J.	226
Hinton, H. A.	Butterworth, T., Sadler, W., Ford, J. H.	222 & 223
Hitchens, C. W. M.	Maggs, F., Germain, T. G.	222
Hodson, G. S.	Bond, W.	227

\* Tomline, G. H., also on Mr. Green's Staff.      † Also on Mr. Campbell's Staff.

H. M. Inspector.	Subordinate Staff.	Page.
Holman, H. .. ..	Kerslake, A. T., Sedgwick, G. (I), Horsfall, G., Frost, F. C. R.	222 & 223
Holmes, E. G. A. ..	Firth, H., Payne, J.	220 & 225
Holt-White, R. ..	Harbour, R. M., Gumersall, E.	222
Howard, E. H. ..	Maudsley, J., Eley, T. (I), Thackray, W., Barracough, E.	227 & 228
Howard, F. T. ..	Thornton, A. L., Fawcett, J. L., Ballance, W., Thomas, J. O.	220
Hudson, J. H. ..	Knight, R. (I), Cornes, F., Reeves, J.	225 & 226
Hughes, R. E. ..	Copus, E., Bowen, J.	228
Iles, J. C. ..	Pearce, T. W. (I), Dicks, C. (I), Page, H.	223
Irvine, H. W. ..	Glover, T. (I), Hallam, T. (I), Percival, A.	222 & 223
Joad, E. .. ..	Daniell, R. J.	220
Jones, T. .. ..	Hooson, J. E.	228
Kenney-Herbert, E. M. ..	Wallis, A., Whitworth, A. J., Shaw, G.	219
Kynnersley, E. M. Sneyd ..	Dewse, W. (I), Stacey, J. (I), Smith, L. C. F. (I), Jalland, W. H., Bate, A. G.	223 & 224
Leaf, J. F. .. ..	Winstanley, D. A., Brown, H. (I), Wilson, G. (I).	220 & 221
Legard, A. G. .. ..	Wakeford, J. E.	228
Lott, F. B. .. ..	Seer, A. (I), Ellcock, S.	223
Marvin, F. S. .. ..	Kenney-Herbert, A. E., Carter, W. J., Harrison, G. A.	227 & 228
Milman, W. C. G. ..	Harding, F. E., Brindle, T. B., Gill, S.	221
Mines, H. R. .. ..	Cowling, C. H.	221
Monro, L. T. .. ..	Corris, E. (I), Park, J. H., Harvey, F.	227
Newton, A. W. ..	Biddle, S.	224
Oliver, R. D. M. ..	Lovett, J.	223
Parkinson, C. L. J. M. ..	Johnson, G. (I)	225
Pawle, C. D. .. ..	Johnson, B., Burley, W. W.	223 & 224
Piggott, H. H. .. ..	Acton, G. H., Edwards, J. J.	225 & 226
Pole, M. .. ..	Boutflower, C., Waumsley, F. A., Watkins, A., Sadd, A. H.	221
Price, H. .. ..	Wilkinson, H.	223 & 2
Pryce, E. S. Mostyn ..	Lewis, C. (I), Millard, W.	225
Quilter, H. H. ..	Winter, W.	224
Rankine, A. .. ..	Spencer, W. K., Bartlett, A., Coombes, H.	219 & 231
Richards, H. M. .. ..	Bloom, E. D. F., Singleton, J. E., Whiteley, F., Grime, H.	222 & 223
Roberts, E. .. ..	Johns, W. C. R., Matthews, G. W.	228
Roberts, E. E. ..	Crompton, W. H.	227
Roberts, L. J. .. ..	Morris, E. (I), Rhudderch, R.	228
Routh, G. R. R. ..	Fear, E. D., Scutt, W.	220
Smith, A. R. .. ..	Wadsworth, G. H., Sinkings, J., Urwin, W. B.	223
Stevally, R. S. ..	Couch, W. H.	224
Streetfield, E. C. ..	Webb, F. J., Lucas, H.	224
Swinburne, A. J. ..	Steele, J. J., Hunt, T.	226
Tillard, J. .. ..	Butler, A. F., Tench, J. H., Dempster, F. P., Key, A.	225
Tremenheere, S. G. .. ..	Theobald, G. R., Morgan, T. M. (I), Spikes, W. F.	219
Turnbull, W. P. .. ..	Matta, R., Smith, G. F.	228
Turner, G. A. .. ..	Wakelin, W. H. (I), Dennis, C. H., Langley, M. H.	228
Ussher, B. G. .. ..	Riddell, J. R., Wilson, H. G., Cooke, J. H.	225
Ward, H. .. ..	Parkes, F. W. (I), Reep, W.	220
Whitnell, C. T. .. ..	Owen, A. (I), Haler, W. H.	228
Wilson, J. .. ..	Finch, A. (I), Veysey, J. W.	223 & 224
Wilson, S. R. .. ..	Richardson, J. A., Bell, G. W.	227
Winn, W. J. G. ..	Cunningham, J. J.	224
Wix, E. N. .. ..	Marsh, J., Purdie, G. R.	221
Wylie, J. H. .. ..	Morris, W. (I)	224
Wynn-Williams, E. .. ..	Beach, W. P. (I), Ensor, H.	227
Yarde, W. B. S. .. ..		225 & 226

## INSPECTION OF TECHNOLOGICAL INSTRUCTION AND EVENING SCHOOLS.

H.M. Inspector.	Subordinate Staff. JUNIOR INSPECTORS.	Page.
Ball, E. J. ..	Saltmarsh, J. G.	219, 221 & 225
Buckmaster, C. A. ..	Holmes, H. T., Russell, J. B., Ingles, P. H. B.	231
Hoffert, H. H. ..	Thompson, F. W.	221 & 226
Pullinger, F. ..	McFarlane, G.	223 & 228
Shaw, T. B... ..	Boothroyd, E. H.	228

## ADDRESSES OF INSPECTORS.

Page.	Page.
Airy, O., Weybridge—"Kent- mere," Heath Road { 224, 229 Alexander, R. J., London—7, Burton Court, Lower Sloane Street, S.W. } & 231	Cherrill, A. H., Lostwithiel (Cornwall) (temporary) 220
Allport, H., Harrogate—Pentire, South Drive 229	Claughton, H. W., Bury St. Edmund's—Fornham St. Mar- tin 226
Ball, E. J., St. Albans—Ab- botsfield, London Road { 219, 221, 225 & 231	Colborne, Hon. Mrs., London —Board of Education, St. Stephen's House, Cannon Row, Westminster, S.W. 230
Bancroft J., Tenby—3, Esplan- ade 228	Colson, C. G., Bedford—"Eper- stone" 219 & 221
Barnett, P. A., Isleworth— "Heatherleigh," Spring Grove 229	Colvill, J. C., London—43, Ling- field Road, Wimbledon Com- mon, S.W. (temporary) 226
Barrington-Ward, M. J., Wor- cester—Thorneloe Lodge 227	Cornish, B. S., Harrogate— 8, High Street, Starbeck 227 & 228
Battiscombe, E. M., Weston— super-Mare—Eastwood 220, 225 & 227	Cowie, H., Torquay—"Court- lands," Chelston 220
Baxandall, G. A., Leeds—130, Otley Road 227 & 228	Creasey, C. H., Plymouth— "Beechwood," Thorn Park Road 220
Bertram, F. G. L., Newcastle- on-Tyne—51, Queen's Road, Jesmond 225	Crosby, Miss A. D., Bromley (Kent)—1, Holwood Road 231
Boulton, Miss E. F. 230	Curry, W. E., Cambridge— Romsey House, Mill Road 219†
Brewer, W. H., Blackburn— 24, Shear Bank Road 222 & 223	Curry, R. F., Bath—Cum- berland Lodge, Bathwick Hill 225 & 227
Bridge, J. J. Jr., Northwich— Great Budworth (temporary) { 220, 223 & 225	Dale, F. H. B., Newark—The Red House, South Coltingham 225
Brill, J., Bath—"Eastcote," Weston Road { 220, 225 & 227	Darlington, T., Aberystwyth— "Velindre" 228
Bruce, E. H. H., London—3, Upper Tooting Park Mansions, Tooting, S.W. 229	Davidson, E. F., Oxford—4, Winchester Road 225
Buckmaster, C. A., London— Board of Education, South Kensington, S.W. 231	Davies, J. H., Canterbury— Westgate House, St. Dunstan's 222
Burrage, J. H., Woodford Green —St. Tydfil, Fairlight Avenue 221 & 226	Dean, H. J. Darlington—"Egles- field," Abbey Road 220
Burrows, E. H., Chichester— Singleton 226	Degani, Miss M. A., London—26, Chenies Street Chambers, W.C. 231
Callis, Miss C. L. 230	De Saussmarez, F. B., Chelten- ham—5, Queen's Parade 221
Campagnac, E. T., London— 1, Sunny-side, Wimbledon, S.W. 224	Dibben, H. F., Exmouth—13, Morton Crescent 220 & 231
Campbell, J. G. D., Leam- ington—Guy's Cliff Lawn 226	Dickson, Miss I. A. 230
Cape, F. W., Sheffield—14, South bourne Road, Broomhill 227 & 228	Dufton, A., Chester—5, Ever- leigh Park, Liverpool Road 228
Cartlidge, S. J., London—Board of Education, South Kensing- ton, S.W. 229	Dufton, S. F., Leeds—Laurel Bank, Claremont Road, Head- ingley 227 &
Cartwright, A., Market Har- borough—The Paddocks 225	Dugard, F., Woodford Green— Belbrook 221

ADDRESSES OF INSPECTORS.—*Cont.*

Dymond, T. S., London—Board of Education, South Kensington, S.W.	Page 231	Henderson, H. P., London—171, St. James's Court, S.W.	Page 226
Edwards, E. R., London—Adsworth, Church End, Finchley, N.	224	Hinton, H. A., Preston—Manor House, Holm Slack (temporary)	222 & 223
Edwards, W., Merthyr Tydfil—Courtland House	228	Hitchins, C. W. M., Tonbridge—Gable House, Yardley Park Road	222
Edwards, W. B. D., Nottingham—7, Hamilton Drive	220, 223 & 225	Hodson, G. S., Salisbury—88, Crane Street	227
Eichholz, A., London—28, Bellingbroke Road, West Kensington, W.	224	Hoffert, H. H.	221, 226 & 231
Elliott, C. H. [B.], Bristol—Frenchay	221, 229 & 231	Holman, H., Bury—Bankfield South	222 & 223
Fenton, M. A., Preston—The Tower Ho., Avenham Park	222 & 223	Holmes, E. G. A., Newcastle-on-Tyne—6, Ellington Rd.	220, 225
Ferard, R. H.	225, 226 & 227	Holt-White, R., Bexley Heath (Kent)—Gravel Hill	229 & 231
Field, E. M., London—65, Talbot Road, Highgate, N.	224	Howard, E. H., York—West Villa, Holgate	227 & 228
Fisher, A. B., Weston-super-Mare—Saltram Villa, Atlantic Road South	225	Howard, F. T., Waverton (near Chester)—West Mount	220
Fletcher, Morley. Reading—10, Broadway Buildings	229	Hudson, J. H., Wolverhampton—22, St. Mark's Road (temporary)	225 & 226
Fletcher, W. C., London—Board of Education, Whitehall, S.W.	231	Hughes, R. E., Newport (Mon.)—“St. Olaves,” Stow Park Circus	228
Foster, J., Gateshead—14, Noble Terrace	220 & 221	Iles, J. C., Liverpool—187, Lodge Lane	223
Fowler, R. M., Southampton—Winton House, Westend	221	Irvine, H. W., Huyton, Liverpool—“Sunnyside”	222 & 223
Freeland, F. A. S., Furness Abbey, via Carnforth	220	Jackson, Cyril, London—Board of Education, Whitehall	231
Gardner, G., Eastbourne—“St. Fillans,” Grassington Road	226	Joad, E., Falmouth—Simla Villa	220
Gordon, G. H., Shaftesbury—Wincombe Park	220	Jones, D. E., Sutton Coldfield—Inglewood, Four Oaks	225, 226 & 227
Gordon, H., London—97, Cadogan Gardens, S.W.	229	Jones, T., Abergavenny—Glan-baiden	228
Graves, A. P., London—Red Branch Ho., Lauriston Road, Wimbledon Common, S.W.	224	Kenney-Herbert, E. M., Aylesbury	219, 229 & 231
Gray, P. L., Bromley (Kent)—41, Hayes Road	222 & 224	Kynnersley, E. M., Sneyd, Manchester—375, Moss Lane	223, 224 & 231
Green, F. T., Birmingham—48, Hagley Road, Edgbaston	226	Lattimer, J., Bristol—73, Cold Harbour Road, Redland	229
Grindrod, G. H. B., Duffield—(Derby)—“St. Ronans,” Avenue Road	220	Lawrence, Hon. Maude, London—Board of Education, Whitehall, S.W.	230
Hards, W. B., Sale, near Manchester—“Weston”	222 & 223	Laws, J. P., Liverpool—2, Aigburth Vale, S.	220, 222 & 223
Harrington, Miss A. F.	230	Leaf, J. F., Durham—15A, Old Elvet	220 & 221
Harris, A., Norwich—4, Stanley Avenue	219, 223 & 225	Legard, A. G., Cardiff—123, Cathedral Road	228, 229 & 231
Harrison, H. E. B., Brighton—21, Brunswick Pl., Hove	222, 226, 229 & 231	Leicester, J., Oxford—17, Staverton Road	219, 221, 225 & 227
Hartley, J. W., Gainford, near Darlington	220, 225 & 227	Lloyd, Ll. S., Chester—3, Asl Grove	220
Headlam, J. W., London—Board of Education, Whitehall, S.W.	231	Lott, F. B., Leicester—“Teigh-baeg,” Stoney Gate Avenue	223
Heale, Miss K. M.	230	Macnaughton, D. A., Liverpool—6, Princes Avenue	222 & 223
Helps, E. A., London—The Albemarle Club, 13, Albemarle Street, W.*	224	Marvin, F. S., Leeds—Roundhay Milman, W. C. G., Andover—Clatford Manor	227 & 228
		Mines, H. R., Hereford—Sarum House, St. Ethelbert Street	221

\* Until 30th September, 1905, only.

ADDRESSES OF INSPECTORS.—*Cont.*

	Page		Page
Monro, L. T., Hull—32, Linnaeus Street	227	Stevelly, R. S., London—58, Fairhazel Gardens, South Hampstead, N.W.	224
Munday, Miss R. A.	230	Streatfeild, E. C., London—39, Craven Road, Hyde Park, W.	224
Murray, H. J. R., Cambridge —Seatoller, Hills Road	219, 221, 225 & 226	Suddards, F., Harborne (Birmingham)—25, Wentworth Road	229
Newton, A. W., London—“Elmdale,” Blackheath Park, S.E.	224	Swain, W. R., Godalming—“Sandrock”	221, 222 & 226
Nicholson, Miss M.	230	Swinburne, A. J., Saxmundham—Snape Priory	226
Noble, Miss J. H.	230	Theodosius, C. E., Bath—Fairystowe, Widcombe Hill	219, 221 & 225
Oliver, R. D. M., Peterboro’—The Manor House, Fletton	223	Tillard, J., Norwich—Harford House, Ipswich Road	225
Parkinson, C. L. J. M., King’s Lynn—Tuesday Market Place	225	Trayes, F. E. A., London—10, Luxemburg Gardens, Brook Green, W.	224
Pawle, C. D., Louth—Arnold House	223 & 224	Tremenheere, S. G., Reading—Queen’s Hotel	219
Phillips, T. W., Exeter—10, Marlborough Road	220	Turnbull, W. P., Sheffield—Mount View	228 & 231
Piggott, H. H., Stone, Staffs—17, Northesk Street	225 & 226	Turner, G. A., Huddersfield—“Hillside,” Imperial Road, Edgerton	228
Pole, M., Kelvedon (Essex)—The Cedars	221	Tutton, A. E. H., London—41, Ladbroke Square, W.	224
Price, H., Melton Mowbray—Daventry House, Burton Road	223 & 225	Ussher, B. G., Shrewsbury—The Cottage, Meole Brace	225
Pryce, E. S. M., Bath—4, Royal Crescent	225	Wager, H. W. T., Leeds—“Hendre,” Hosforth Lane, Far Headingley	227 & 228
Pullinger, F., Leeds—3, St. Chad’s Hill, Far Headingley	223, 228 & 231	Walter, Miss L. E. ..	230
Quilter, H. H., London—106, Chetwynd Road, N.W.	224	Ward, H., Stockport—24, Broomfield Road, Heaton Moor	220
Rankine, A., Woodford Green—48, Montalt Road	219 & 231	Westaway, F. W., Bedford—1, Pemberley Crescent	219, 221, 223 & 225
Ricbards, H. M., Preston—“Sunnyside,” Lower Bank Road, Fulwood	222 & 223	Whitnell, C. T., Leeds—“Invermay,” Hyde Park	228
Roberts, E., Carnarvon—Plas Maesincla	228	Wilson, J., Heighington (Lincoln)—The Manor House	223 & 224
Roberts, E. E., Whitby—Arran Bagdale	227	Wilson, S. R., Ripon—West Grange	227
Roberts, L. J., Rhyl—“Tegvan,” Russell Road	228	Winn, W. J. G., London—105, Clement’s Inn, Strand, W.C (temporary)	224
Routh, G. R. R., Barnstaple—Imperial Hotel	220	Wix, E. N., St. Albans—Holywell House	221
Scott, R. P., London—Board of Education, Whitehall, S.W.	231	Wylie, J. H., London—4, Lawn Road, Haverstock Hill, N.W.	224
Shaw, T. B., Llandaff, Cardiff—7, The Green	228 & 231	Wynn-Williams, E., Windermere	227
Sillitoe, Miss H.	230	Yarde, W. B. S., Eccleshall (Staffs.)—Hilcote Hall	225 & 226
Skirrow, B. B., Swansea—1, Sketty Road	228		
Smith, A. E., Bolton—Halliwell Lodge Hotel	223		
Spencer, F., London—34, Alleyn Road, West Dulwich, S.E.	226 & 231		
Sproule, Miss L.	230		
Stephens, T. A., Newcastle-on-Tyne—44, Sanderson Road, Jesmond	220, 225 & 227		

## ADDRESSES OF SUBORDINATE INSPECTING STAFF.

## A—JUNIOR INSPECTORS.

Junior Inspectors.	Address.	Name of Inspector to whom he is responsible.	Page.
Abbott, A. . .	Newark, 6, Winchelsea Avenue ..	Dale, F. H. B. . .	225
Bloom, E. D. F. . .	Preston, Ardlis, Watling Street Road, Fulwood	Richards, H. M. . .	222 & 223
Boothroyd, E. H. . .	Newport (Mon.), Nylic, Ombersley Road	Shaw, T. B. . .	228
Boutflower, C. . .	Colchester, "The Lilies," Athelstan Road	Pole, M. . .	221
Butler, A. F. . .	Norwich, Gables, Thorpe ..	Tillard, J. . .	225
Carter, E. H. . .	London, 23, Glasslyn Road, Shep- herd's Hill, N.	Field, E. M. . .	224
Firth, H. . .	Newcastle-on-Tyne, 33, Devonshire Place, Jesmond	Holmes, E. G. A. . .	220 & 225
Hales, J. E. . .	London, Board of Education, White- hall	—	
Hartley, Harold . .	Worcester, 1, St. George's Square ..	Barrington-Ward, M. J. . .	227
Holmes, H. T. . .	Tottenham, 3, Whitley Road, Bruce Grove	Buckmaster, C. A. . .	231
Ingles, P. H. B. . .	London, Board of Education, South Kensington (temporary)	—	
Johns, W. C. R. . .	Carnarvon, Angorfa, St. David's Road	Roberts, E. . .	228
Kenney-Herbert, A. E. . .	Leeds, 32, Mount Preston	Marvin, F. S. . .	227 & 228
Kerslake, A. T. . .	Bury, 6, Malvern Villas, Chesham Road	Holman, H. . .	222 & 223
Lawrence, W. M. T. . .	London, 57, Prince's Gate, S.W.	—	
McFarlane, G. . .	Leeds, 18, Woodland Park Road, Headingley	Pallinger, F. . .	223 & 228
Maudsley, J. . .	York, 3, South Bank, The Mount ..	Howard, E. H. . .	227 & 228
Moore, A. M. . .	London, Board of Education, White- hall	—	
Owen, J. . .	London, Board of Education, White- hall	—	
Page, A. F. . .	Bristol, Stanbridge House, Downend	de Saussarez, F. B. . .	221
Phillips, C. J. . .	London, Board of Education, White- hall	—	
Russell, J. B. . .	London, Board of Education, White- hall (temporary)	—	
Saltmarsh, J. G. . .	Bedford, 12, Albany Road ..	Ball, E. J. . .	219, 221 & 225
Spencer, W. K. . .	Cambridge, 18, Bateman Street ..	Rankine, A. . .	219
Theobald, G. R. . .	Reading, 107, Oxford Road ..	Tremenheere S. G. . .	219
Thompson, F. W. . .	Redhill, "Clovelly," Lynwood Road	Hoffert, H. H. . .	221 & 226
Thornton, A. L. . .	Altringham, Broomlea, Navigation Road	Howard, F. T. . .	220
Wallis, A. . .	Aylesbury, 7, Walton Terrace ..	Kenney-Herbert, E. M. . .	219
Winstanley, D. A. . .	Durham, 31, Old Elvet ..	Leaf, J. F. . .	220 & 221
Wood, L. S. . .	Bristol, 3, Florence Road, Cold- harbour Lane	Elliott, C. H. B. . .	221
Young, W. H. . .	Oxford, 238, Abingdon Road ..	Davidson, E. F. . .	225

## B.—SUB-INSPECTORS.

Sub-Inspector.	Address.	Name of Inspector to whom he is responsible.	Page.
Acton, G. H. ..	Wolverhampton, Strathmore, Stockwell End	Piggott, H. H. ..	225 & 226
Ainsworth, J. D. ..	London, Heathfield, King's Road, Clapham Park, S.W.	Airy, O. ..	224
Archard, T. ..	Southsea, 30, Lorne Road ..	Burrows, E. H. ..	226
Baker, E. G. ..	West Brighton, 11, Ranelagh Villas, Hove	—	230
Baldrey, W. ..	Bedford, St. Heliers, Lansdowne Road	Colson, C. G. ..	219 & 221
Ballance, W. ..	Chester, 5, Vicarage Road, Hoole ..	Howard, F. T. ..	220
Barclay, R. B. ..	Plymouth, 1, Connaught Avenue, Mutley	Cowie, H. ..	220
Barraclough, E. ..	York, 16, Bootham Terrace ..	Howard, E. H. ..	227 & 228
Bartlett, A. ..	Cambridge, 28, Bateman Street ..	Rankine, A. ..	219
Bate, A. G. ..	Stockport, "Tresillian," Brownsville Road, Heaton Moor	Kynnersley, E. M. ..	223 & 224
Beach, W. P. ..	Stoke-upon-Trent, James Street ..	Sneyd.	
Beck, C. ..	Taunton, Tower House, Park Street ..	Yarde, W. B. S. ..	225 & 226
Bell, G. W. ..	York, 6, St Mary's ..	Fisher, A. B. ..	225
Biddle, S. ..	London, 3, Rosenthal Road, Catford, S.E.	Wilson, S. R. ..	227
Bond, W. ..	Salisbury, St. Cyrus ..	Newton, A. W. ..	224
Bould, J. ..	Bristol, 83, Effingham Road ..	Hodson, G. S. ..	227
Bowen, J. ..	Newport (Mon.), 1, Ombersley Road	Elliott, C. H. B. ..	221
Bright, W. ..	Exeter, The Glen, Union Road ..	Hughes, R. E. ..	228
Bridle, T. B. ..	Andover, Lansdowne South ..	Cowie, H. ..	220
Brown, H. ..	Durham, 6, Ravensworth Terrace ..	Milman, W. C. G. ..	221
Brown, J. H. ..	Barnsley, Dale House, Cawthorne ..	Leaf, J. F. ..	220 & 221
Brown, J. L. ..	Sheffield, 70, Springfield Road, Mill-houses	Cape, F. W. ..	227 & 228
Bulley, W. H. ..	Chesterfield, Glenthorpe, Battledown	Cape, F. W. ..	227 & 228
Burley, W. W. ..	Derby, 25, Leopold Street ..	de Saussarez, F. B. ..	221
Burton, W. ..	Brighton, 1, Melville Road ..	Pawle, C. D. ..	223 & 224
Bush, S. ..	Birmingham, College Road, Moseley	Grindrod, G. H. B. ..	220
Butler, R. P. ..	Oxford, 216, Woodstock Road ..	Harrison, H. E. B. ..	222 & 226
Butler, W. ..	Sherborne, The Avenue ..	Green, F. T. ..	226
Butt, T. ..	Rochdale, 11, King Street South ..	Davidson, E. F. ..	225
Butterworth, T. ..	Birmingham, St. Bernards, Four Oaks	Gordon, G. H. ..	220
Carrodus, S. ..	Halifax, Summerseat, Lightcliffe ..	Hinton, H. A. ..	222 & 223
Carter, W. J. ..	Birmingham, Heathmere, Albany Road, Harborne	—	230
Catherall, E. ..	London, West Brae, Wellington Road, Enfield, N.	de Saussarez, F. B. ..	221
Chadwick, E. H. ..	Birmingham, The Mount, Church Road, Yardley	Campbell, J. G. D. ..	226
Challens, E. ..	Shrewsbury, Ellesmere House ..	Field, E. M. ..	224
Cooke, J. H. ..	Cambridge, Lyndhurst, 2, Parkside	Green, F. T. ..	226
Coombs, H. ..	Newport (Mon.), St. Basil's, Llanthewy Road	Ussher, B. G. ..	225
Copus, E. ..	Birmingham, 92, Trinity Road, Birchfield	Rankine, A. ..	219
Cornes, F. ..	Hull, 21, Vane Street, Spring Bank	Hudson, J. H. ..	225 & 226
Corris, E. ..	London, 121, Pepys Road, New Cross, S.E.	Monro, L. T. ..	227
Couch, W. H. ..	Hereford, Barroll House, St. Owen Street	Stevelly, R. S. ..	224
Cowling, C. H. ..	York, Hawthorn Bank, Scarcroft Road	Mines, H. R. ..	221
Crompton, W. H. ..	Guildford, "Florencia," York Road	Roberts, E. E. ..	227
Crossley, C. J. ..	London, 24, Santos Road, West Hill, Wandsworth, S.W.	Colvill, J. C. ..	226
Cunningham, J. J. ..	—	Winn, W. J. G. ..	224

Sub-Inspector.	Address.	Name of Inspector to whom he is responsible.	Page.
Daniell, R. J. . .	Truro, Devoran House, Stratton Terrace	Joad, E. .. .	220
Day, J. C. R. . .	Worcester, 6, Lansdowne Crescent . . .	Barrington-Ward, M. J.	227
Dempster, F. P. . .	Norwich, 17, Grove Road .. .	Tillard, J. . .	225
Dennis, C. H. . .	Huddersfield, Woodhouse .. .	Turner, G. A. . .	228
Dewse, W. . .	Manchester, 12, Lime Grove, Oxford Road	Kynnersley, E. M.	223 & 224
Dickenson, J. . .	London, 13, Gorst Road, New Wandsworth, S.W.	Sneyd Airy, O. . .	224
Dicks, C. . .	Liverpool, 2, Strathmore Road ..	Iles, J. C. . .	223
Dolman, W. H. . .	Bath, Medina, Bloomfield Avenue ..	Curry, R. F. . .	225 & 227
Dunn, A. H. . .	Derby, 7, Reginald Street, Rose Hill	Grindrod, G. H. B.	220
Edwards, J. J. . .	Stoke-on-Trent, Ivy Bank, James Street	Piggott, H. H. . .	225 & 226
Eley, T. . .	York, 81, Bishopthorpe Road ..	Howard, E. H. . .	227 & 228
Ellicock, S. . .	Leicester, 44, St. James' Road ..	Lott, F. B. . .	223
Eltringham, W. T. . .	Whitley Bay, Seafield House, The Promenade	Bertram, F. G. L.	225
England, W.C. . .	Newton Abbot, Keyberry Park ..	Cowie, H. . .	220
Ensor, E. . .	Middleton St. George, R.S.O., Durham	Dean, H. J. . .	220
Ensor, H. . .	Gnosall, near Stafford.. .	Yarde, W. B. S. . .	225 & 226
Evans, J. . .	Merthyr Tydfil, Spring Hill Villa ..	Edwards, W. . .	228
Fawcett, J. L. . .	Macclesfield, Ivy Mount, Beech Lane (temporary)	Howard, F. T. . .	220
Fear, E. D. . .	Barnstaple, 1, Sunnymead, Landkey Road	Routh, G. R. R. . .	220
Finch, A. . .	Lincoln, 4, South Park Villas ..	Wilson, J. . .	223 & 224
Fishwick, J. . .	Bedford, 50, Waldeck Avenue ..	Colson, C. G. . .	219 & 221
Foister, J. S. . .	London, Oakhurst, North Road, Highgate, N.	Helps, E. A. . .	221
Ford, J. H. . .	Manchester, 31, Northern Grove, West Didsbury	Hinton, H. A. . .	222 & 223
Frost, F. C. R. . .	Oldham, 173, Coppice Street (temporary)	Holman, H. . .	222 & 223
Garland, G. . .	St. Leonards-on-Sea, Aspenden, Clinton Crescent	Gardner, G. . .	226
Geffcken, A. . .	Newton Abbot, Wyandoite, Knowles Hill	—	230
Germain, T. G. . .	Tunbridge Wells, 4, Southfield Road	Hitchins, C. W. M. . .	222
Gill, S. . .	Southsea, 33, Outram Road ..	Millman, W. C. G. . .	221
Glover, T. . .	Liverpool, 70, Kremlin Drive ..	Irvine, H. W. . .	222 & 223
Goodyear, T. W. . .	London, 44, Wilberforce Road, Finsbury Park, N. (temporary)	Dugard, F. . .	221
Greet, J. H. E. . .	Devonport, 21, St. Hilary Terrace, Stoke	Dibben, H. F. . .	220
Grime, H. . .	Lancaster, 10, Brookfield Villas, Aldcliffe Road	Richards, H. M. . .	222 & 223
Gummersall, E. . .	Rochester, 21, New Road ..	Holt-White, R. . .	222
Haler, W. H. . .	Ilkley, 28, St. James's Road.. .	Whitmell, C. T. . .	228
Hall, J. . .	Nottingham, 37, Burns Street ..	Dale, F. H. B. . .	225
Hallam, T. . .	Southport, 53, Hartwood Road ..	Irvine, H. W. . .	222 & 223
Hands, W. J. . .	Upper Parkstone (Dorset), Granhams, Alexandra Road	Gordon, G. H. . .	220
Harbour, R. M. . .	Bexley Heath (Kent), 2, Gravel Hill	Holt-White, R. . .	222
Harding, F. E. . .	Winchester, St. Faith's Road, Southgate Road	Millman, W. C. G. . .	221
Harrison, G. A. . .	Wakefield, Westfield Grove.. .	Marvin, F. S. . .	227 & 228
Harrison, T. . .	Northampton, 4, St. Matthew's Parade	Cartwright, A. . .	225
Hartley, T. C. . .	Worcester, 1, West View Terrace, Droitwich Road	Barrington-Ward, M. J.	227

Sub-Inspector.	Address.	Name of Inspector to whom he is responsible.	Page.
Harvey, F. . .	Beverley, 1, Lorne Terrace .. .	Monro, L. T. . .	227
Hicks, E. H. . .	Southampton, 49, Archers Road ..	Fowler, R. M. . .	221
Hodges, J. . .	Croydon, Haslemere, Woodstock Road	Colvill, J. C. . .	226
Holden, J. E. . .	Guildford, Highcroft, Jenner Road	Colvill, J. C. . .	226
Hole, F. . .	Gloucester, Birchwood House, Heathville	de Saumarez, F. B. . .	221
Holliday, S. . .	... . . . .	Edwards, W. . .	228
Hooson, J. E. . .	Abergavenny, Glenavon, Monmouth Road	Jones, T. . .	228
Horsfall, G. . .	Manchester, 43, Snowdon Road, Eccles	Holman, H. . .	222 & 223
Howlett, T. . .	Leamington, 10, Union Road .. .	Campbell, J. G. D. . .	226
Hudson, C. W. S. . .	Twickenham, The Lilies .. .	—	230
Hunt, T. . .	Ipswich, 25, Ashmere Grove .. .	Swinburne, A. J. . .	226
Jalland, W. H. . .	Manchester, 51, Brook Road, Gorton	Kynnersley, E. M. . .	223 & 224 Sneyd
James, D. . .	Llandilo R.S.O., Carmarthen, Fron-deg	Bancroft, J. . .	228
Jarman, J. R. . .	Sunderland, 13, Tunstall Vale .. .	Foster, J. . .	220 & 221
Johnson, B. . .	Great Grimsby, Sydenham Villa, Lambert Road	Pawle, C. D. . .	223 & 224
Johnson, G. . .	King's Lynn, The Firs, Gaywood Road	Parkinson, C. L. J. M. . .	225
Johnson, T. H. . .	Oswestry, Llanymynech .. .	Darlington, T. . .	228
Jones, G. . .	Merthyr Tydfil, 47, Union Terrace .. .	Edwards, W. . .	228
Keate, R. . .	London, 14, Rosary Gardens, S.W. . .	—	230
Key, A. . .	Norwich, 11, The Crescent .. .	Tillard, J. . .	225
Knight, R. . .	Birmingham, Rectory Road, Sutton Coldfield	Hudson, J. H. . .	225 & 226
Lacey, A. . .	Plymouth, 3, Hillsborough, Manna-mead	Cherrill, A. H. . .	220
Langley, M. H. . .	Shipley, 15, Bromley Road .. .	Turner, G. A. . .	228
Lewis, C. . .	Bath, Surrey House, 8, Bloomfield Avenue	Pryce, E. S. . .	225 Mostyn
Lovett, J. . .	Stamford, 2, St. Mary's Place .. .	Oliver, R. D. M. . .	223
Lucas, H. . .	London, 38, Loveday Road, West Ealing. W.	Streatfeild, E. C. . .	224
McGregor, J. Mc. L. . .	Dover, Manor House, Maxton .. .	Davies, J. H. . .	222
Maggs, F. . .	Maidstone, Lansdown, Buckland Hill	Hitchins, C. W. M. . .	222
Marsh, J. . .	St. Albans, 6, Gombards .. .	Wix, E. N. . .	221
Martin, H. . .	Newcastle-on-Tyne, 112, Manor House Road, Jesmond	Bertram, F. G. L. . .	225
Martin, W. . .	London, 50, Burlington Gardens, Churchfield Road, Acton, W.	Alexander, R. J. . .	224
Malta, R. . .	Sheffield, 56, Marlborough Road .. .	Turnbull, W. P. . .	228
Matthews, G. W. . .	Carnarvon, Roman Villa, Llanbeblig Road	Roberts, E. . .	228
Meggs, W. T. . .	Derby, 32, Seacroft Road .. .	Grindrod, G. H. B. . .	220
Millard, W. . .	Shepton Mallet, "Beaumont," Cannard's Grove	Pryce, E. S. . .	225 Mostyn
Morgan, T. M. . .	Reading, "Rivington," 73, Alexandra Road	Tremenheere, S. G. . .	219
Morris, E. . .	Wrexham, Walmer Villa, Ruabon Road	Roberts, L. J. . .	228
Morris, W. . .	London, 9, Upper Park Road, Haverstock Hill, N.W.	Wylie, J. H. . .	224
Neville, C. E. . .	Shipley, Yorks, The Hollies, Victoria Park	—	230
Norris, S. . .	Bath, 5, Elm Place .. .	Curry, R. F. . .	225 & 227
Northrop, F. . .	Worcester, Park Avenue .. .	Barrington-Ward, M. J. . .	227
Owen, A. . .	Leeds, Glencairn, Westfield Villas, Headingley	Whitmell, C. T. . .	228

Sub-Inspector.	Address.	Name of Inspector to whom he is responsible.	Page.
Page, H. ..	Liverpool, 79, Denman Drive, Newsham Park	Iles, J. C. ..	223
Park, J. H. ..	Beverley, St. Margaret's, Lairgate ..	Monro, L. T. ..	227
Parkes, F. W. ..	Stockport, Cheadle Hulme ..	Ward, H. ..	220
Parsons, J. ..	London, 53, Wroughton Road, S.W.	Campagnac, E. T. ..	224
Payne, J. ..	Gateshead, 3, Elm Grove Terrace ..	Holmes, E. G. A. ..	220 & 225
Pearce, T. W. ..	Liverpool, 79, Hartington Road ..	Iles, J. C. ..	223
Percival, A. ..	Liverpool, 27, Moscow Drive ..	Irvine, H. W. ..	222 & 223
Purdie, G. R. ..	St. Albans, Bancroft, Clarence Road	Wix, E. N. ..	221
Ramshaw, R. ..	Newcastle-on-Tyne, 42, Larkspur Terrace, Jesmond	Bertram, F. G. L. ..	225
Reep, W. ..	Birkenhead, 79, Park Road East ..	Ward, H. ..	220
Rees, J. ..	Swansea, 6, Belgrave Terrace, Walter Road	Edwards, W. ..	228
Reeves, J. ..	.. .. .. .. ..	Hudson, J. H. ..	225 & 226
Rennie, J. B. ..	Newcastle-on-Tyne, 44, Larkspur Terrace, Jesmond	Bertram, F. G. L. ..	225
Rhydderch, R. ..	Rhyl, Islwyn, Beechwood Road ..	Roberts, L. J. ..	228
Richardson, J. A. ..	Darlington, 18, Bondgate ..	Wilson, S. R. ..	227
Riddell, J. R. ..	Shrewsbury, Queslet, Wenlock Road	Ussher, B. G. ..	225
Ridge, A. ..	Leeds, 22, Grange Avenue, Chapel-town Road	Cornish, B. S. ..	227 & 228
Ridout, E. ..	Ilford, 48, Mayfair Avenue .. ..	Dugard, F. ..	221
Roberts, W. H. ..	Derby, 11, Reginald Street .. ..	Grindrod, G. H. B. ..	220
Sadd, A. H. ..	Bishop's Stortford, Grange Road, Hockeरill	Pole, M. ..	221
Sadler, W. ..	Rochdale, 39, William Street ..	Hinton, H. A. ..	222 & 223
Salt, W. H. J. ..	Peterborough, Oakdene, Broadway ..	Cartwright, A. ..	225
Sanderson, T. ..	Southsea, 32, Lorne Road ..	Burrows, E. H. ..	226
Scutt, W. ..	Barnstaple, Nuneham, Fortescue Road, Newport	Routh, G. R. R. ..	220
Sedgwick, G. ..	Manchester, Park View, Demesne Road, Alexandra Park	Holman, H. ..	222 & 223
Seer, A. ..	Leicester, 16, Alexandra Road, Stoney Gate	Loit, F. B. ..	223
Shaw, G. ..	Newport Pagnell, The Ferns ..	Kenney-Herbert, E. M. ..	219
Shilton, F. J. ..	Purley (Surrey), St. Chad's Court ..	Henderson, H. P. ..	226
Singleton, J. E. ..	Kendal, Holly Bank .. ..	Richards, H. M. ..	222 & 223
Sinkings, J. ..	Liverpool, 35, Moscow Drive ..	Smith, A. R. ..	223
Smith, G. F. ..	Sheffield, 22, Elmore Road, Broomhill	Turnbull, W. P. ..	228
Smith, L. C. F. ..	Ashton-on-Mersey, 2, Oakfield ..	Kynnersley, E. M. ..	223 & 224
Southwick, T. ..	Leamington, 10, Guyscliff Terrace ..	Sneyd	
Spikes, W. F. ..	Reading, 47, Alexandra Road ..	Campbell, J. G. D. ..	226
Stacey, J. ..	Stockport, 23, Brownsville Road, Heaton Moor	Tremenheere, S. G. ..	219
Steele, J. J. ..	Saxmundham, South Entrance ..	Kynnersley, E. M. ..	223 & 224
Stevens, C. H. *	Lewes, 9, East Street .. ..	Sneyd	
Stuart, C. ..	Carlisle, Marlborough Gardens, Stanwix	Swinburne, A. J. ..	226
Taylor, A. ..	Penarth, Gorphwysfa, Cwrt-y-Vil Road	Gardner, G. ..	226
Taylor, H. ..	Kettering, 55, Broadway .. ..	Freeland, F. A. S. ..	220
Tench, J. H. ..	Norwich, Ivy Bank, Aylsham Road	—	230
Thackray, W. ..	York, 35, Eastmount Road ..	Cartwright, A. ..	225
Thomas, D. ..	Aberystwyth, Eirianfa, Caradoc Road	Tillard, J. ..	225
Thomas, J. O. ..	Crewe, 236, Nantwich Road ..	Howard, E. H. ..	227 & 228
Thomas, R. E. ..	Blackburn, 14, Strawberry Bank ..	Darlington, T. ..	228
Thorpe, G. ..	Settle, 4, Halsteads .. ..	Howard, F. T. ..	220
Thorpe, J. W. ..	Carlisle, 174, Warwick Road ..	Brewer, W. H. ..	222 & 223
Tomline, G. H. ..	Birmingham, Westfield, 28, Birchfield Road	Cornish, B. S. ..	227 & 228
		Freeland, F. A. S. ..	220
		{ Campbell, J. G. D	226 & 222
		Green, F. T. ..	

\* Employed also to inspect Manual Instruction in South-Eastern Division.

Sub-Inspector.	Address.	Name of Inspector to whom he is responsible.	Page.
Tunaley, H. ..	London, "Ravenshaugh," 13, Beckmead Avenue, Streatham, S.W.	—	230
Torner, W. ..	Weston-super-Mare, Hillcott, Hill Road	Fisher, A. B. ..	225
Urwin, W. B. ..	Manchester, 9, Upper Gorton Street, Pendleton	Smith, A. R. ..	223
Venables, T. H. ..	London, 45, Tantallon Road, Balham, S.W.	Graves, A. P. ..	224
Veysey, J. W. ..	Peterboro', Grangewood, Thorpe Lea Road	Wilson, J. ..	223 & 224
Wade, G. .. ..	London, 36, Craven Park, Harlesden, N.W.	Helps, E. A. ..	224
Wadsworth, G. H. ..	Southport, 82, Liverpool Road, Birkdale	Smith, A. R. ..	223
Waite, J. .. ..	Cheltenham, 2, Christchurch Villas..	de Saussmarez, F. B.	221
Wakeford, J. E. ..	Penarth, Fernleigh, Archer Road ..	Legard, A. G. ..	228
Wakelin, W. H. ..	Halifax, Ashdale, Holmfield..	Turner, G. A. ..	228
Walker, Capt. F. D. ..	Harrogate, Dalry Cottage ..	—	230
Walsh, J. .. ..	Blackburn, 30, Oswald Street ..	Brewer, W. H. ..	222 & 223
Watkins, A. .. ..	London, Melrose, Sylvan Road, Snaresbrook, N.E.	Pole, M. ..	221
Waumsley, F. A ..	Chelmsford, Devon House, Hamlet Road	Pole, M. .. ..	221
Webb, F. J. ..	London, 57, Woodhurst Road, Acton, W.	Streatfeild, E. C. ..	224
Webster, B. ..	Retford, Newville ..	Dale, F. H. B. ..	225
Wheeler, G. H. ..	Bury St. Edmunds, Albert Crescent ..	Claughton, H. W. ..	226
Whiteley, F. ..	Lytham, 58, Park Road ..	Richards, H. M. ..	222 & 223
Whittaker, R. ..	Southampton, Brooklyn Villa, 18, Roberts Road ..	Fowler, R. M. ..	221
Whitworth, A. J... ..	Aylesbury, 12, Bicester Road ..	Kenney-Herbert, E. M.	219
Wilkinson, H. ..	Melton Mowbray, 38, Thorpe-road..	Price, H. ..	223 & 225
Williams, J. B. ..	Llanelli, Pendennis ..	Bancroft, J. ..	228
Wilson, H. G. ..	Shrewsbury, 21, Coton Crescent, Coton Hill ..	Ussher, B. G. ..	225
Wilson, G. ..	Gateshead, 15, Woodhouse Terrace, Bewick Road ..	Leaf, J. F. ..	220 & 221
Winter, W. ..	London, 18, Donaldson Road, Brondesbury Road, N.W.	Quilter, H. H. ..	224

## Form 9.

A Statement of Accounts and Authority for Payment (Form 32) must accompany this Form for every Voluntary School which, during any part of the School Year, has not been under the operation of the Education Act, 1902, or which claims Grant under § 15 of that Act as a School not maintained by the Local Education Authority.

To be used for School Years ending on 31st August, 1905, or any later date to July 31st, 1906, inclusive. [Revised in accordance with Code for 1905.]

Local Education Authority.

School. No. \_\_\_\_\_

RETURN and CLAIM for the School year ended \_\_\_\_\_

WE, being three Managers of the above School and the Clerk or a responsible officer of the Local Education Authority, hereby certify that during the period named above—

- (i.) The School has been conducted as a Public Elementary School in accordance with the conditions expressly required by the Education Acts to be fulfilled, in order that an Annual Parliamentary Grant may be payable;
- (ii.) The admission and daily attendance of the scholars have been carefully registered by, or under the supervision of the Head Teacher, and have been duly verified from time to time by the Managers;
- (iii.) All scholars on whose account additional attendances are claimed under Article 43 (c) have been certified by or on behalf of the Local Education Authority to be qualified by age and attainments or previous due attendance for employment, in conformity with the bye-laws, or, if not subject to the bye-laws, in conformity with the Elementary Education Act, 1876, or some other Act regulating the education of children employed in labour;
- (iv.) All particulars contained in this return are true to the best of our belief.

The references to the Local Education Authority should be expunged in the case of any School claiming Grant under § 15 of the Education Act, 1902, as a School not maintained by the Local Education Authority. These Certificates must be Autograph and in Manuscript.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

(School Managers.)

4. \_\_\_\_\_

(Clerk or other duly authorised responsible officer of the Local Education Authority.)

N.B.—Qualified Certificates, or any needful supplementary statements for which there is not room on the Form, should be separately written on foolscap paper and filed herewith. An entry should, in that case, be made “See Separate Paper, A, B, &c.,” and the filed papers should be marked with the same letters.

N.B.—The returns for Infants in every Section (except IV.) on this paper must always be given separately, and not also included in those for older children, even when they are not taught as a separate department and when the average attendance is below 20.

	BOYS' SCHOOL OR MIXED SCHOOL under a Master.	GIRLS' SCHOOL OR MIXED SCHOOL under a Mistress.	INFANT SCHOOL OR DIVISION. (State which.)			
I. Number of Meetings .. . . .						
If, owing to closure under medical authority, or any other unavoidable cause (see Article 45 (b)), this total is less than 400, a certificate must be filed with this Form.						
	BOYS OR MIXED.	GIRLS OR MIXED.	INFANTS.			
II. What holidays were allowed during the past year? Give dates .. .	Total Attendances	Leave blank.	Total Attendances	Leave blank.	Total Attendances	Leave blank.
(1) Total number of attendances morning or afternoon, of not less than two hours' secular instruction each in the case of older children, and one hour-and-a-half in the case of infants. See Articles 43 and 44.	(a) While over 3 and under 5 yrs. of age					
	(b) While over 5 and under 15 years of age					
	(c) While over 15 years of age					
III	(2) Additional attendances allowable under Art. 43 (c) in respect of partial exemption scholars .. .					
	(3) Total attendances which may be reckoned for grant.	(a) For Annual Grant (Total of 1 (a), 1 (b), 1 (c) and (2))				
		(b) For Fee Grant (Total of 1 (a), 1 (b) and (2))				
	(4) Average attendance.	(a) For Annual Grant				
		(b) For Fee Grant ..				
NOTE.—Before August 1st, 1905, no attendance may be reckoned for a scholar over 15 years of age. On and after August 1st, 1905, attendance may be reckoned for any scholar over 15 years of age who is attending the School. But no scholar who, at the close of the school year, will be more than 16 years of age may attend the School unless the Local Education Authority, with the consent of the Board of Education, have extended that limit in accordance with the provisions of Section 22 (2) of the Education Act, 1902.						
V. Number of partial exemption scholars on account of whom additional attendances are claimed .. .						
V.	Average Number of Children on the Admission Register during the Year.	3 and under 5				
		5 and over.				
		Total.				
(NOTE.—This average is to be found to one place of decimals by adding together the numbers on the register in each week, and dividing the totals "3 and under 5" and "5 and over" by the number of weeks.)						
VI.	Total Number of Children on the Admission Register on the last day of the School Year.	3 and under 5	Boys.	Girls.	Boys.	Girls.
		5 and under 7				
		7 and under 12				
		12 and under 15				
		15 and over ..				
		Totals 3 and over				

VII.—TEACHING STAFF OF BOYS' SCHOOL OR MIXED SCHOOL  
UNDER A MASTER.

All Teachers who have been employed in the School during any part of the School Year must be entered here and no others. There must be filed with this form (1) a Form 75 for any Teacher, other than a Pupil Teacher, who has come during the School Year and whose appointment has not been notified to the Board of Education in accordance with Article 16; (2) a Form 17 P for any Pupil Teacher transferred to the School from some other School during the year, whose transfer has not been previously notified; and (3) a Form 42 for every Uncertificated Teacher (who has not passed the King's Scholarship Examination) or Supplementary Teacher now to be recognised for the first time.

(1) Full Name (Christian and Sur- name, and if a married woman, maiden name) of Teacher.	(2)	(3)	(4)	(5)	(6)	(7) To be filled up only for Teachers on the Staff at the end of the School Year.
Add C. after the name of a Cer- tified Teacher. Add P.C. after the name of a Pro- visionally Certificated Teacher. Add U. after the name of a Un- certified Teacher. Add P.A. after the name of a Pro- visional Assistant Teacher, Add S. after the name of a Sup- plementary Teacher. Add P.T. after the name of a Pupil Teacher. Add P. after the name of a Pro- bationer. Add M. after the name of any other Teacher.	Registered number of Teacher, if Certifi- cated.	Exact date of coming, if within School Year.	Exact date of leaving, if within the School Year.	Whether character and conduct have been satisfac- tory.	Whether efficiency as a Teacher has been satisfac- tory.	(8) If trained in Col- lege dur- ing how many years.
HEAD TEACHER (or Head Teachers if there have been one or more changes in the School Year).	U.P.A., S., P.T., P., M.					Annual Salary.
ASSISTANT TEACHERS.						
"SUPPLY" TEACHERS.						
VIII.— Girls' School or Mixed School under a Mistress.						
IX.— Infants' School or Division.						

**X.—TO BE FILLED UP WHEN A CLAIM IS MADE FOR THE SPECIAL GRANT TO A SCHOOL IN AN AREA WITH A SMALL POPULATION (ART. 32).**

It is hereby certified that the population of the—

\* { (a) Civil Parish of \_\_\_\_\_ within which the School is situated } \*  
 { (b) Area within two miles by the nearest road from the School. } \*  
 was on the last day of the School year \_\_\_\_\_ and that there is no other School recognised by the Board of Education as supplying Public Elementary School accommodation for the said population.

\* Strike out (b) if the claim is based on the population of the Civil Parish, or (a) if it is based on the population of the Area within two miles from the School.

If the claim is based on the population of the Civil Parish, the whole population of that Parish, whether residing within two miles by the nearest road from the School or not, must be included. It should be remembered that the area of a Civil Parish often differs considerably from that of an Ecclesiastical Parish bearing the same name.

If the claim is based on the population of the Area within two miles by the nearest road from the School, the whole population of the Area, whether residing within the Civil Parish or not, must be included: and if the Board requires it, an Ordnance Map showing the position of the School and of other Schools (if any), available for any part of the population, together with a house-to-house census of the population of the Area, must be produced.

N.B.—The inmates of a Workhouse, Barrack, Prison, Convent, Reformatory, District School, Boarding School, Almshouse, or other Public Institution, may be deducted from the population of the Civil Parish or Area excepting in so far as the inmates or inside employés of the Institution contribute towards the School population. Outside employés must in all cases be included. Where deductions are made a separate paper must be filed with this form showing the total population of the Civil Parish or Area, the number deducted, and the reason for the deduction.

**XI.—TO BE FILLED UP WHEN FEES ARE CHARGED TO CHILDREN BETWEEN THE AGES OF 3 AND 15:—**

The entries against (1) and (3) should relate only to children on the Admission Register on the last day of the school year. The entries against (4) and (5) should relate to the total amounts paid during the year, including payments by children who have left.

	BOYS' SCHOOL OR MIXED SCHOOL under a Master.	GIRLS' SCHOOL OR MIXED SCHOOL under a Mistress.	INFANT SCHOOL OR DIVISION.
1. Number of children between 3 and 15 not paying fees .. .. ..			
2. Weekly fees for paying children .. .. ..			
3. Number of children between 3 and 15 paying at each rate .. .. ..			
4. Total amount of fees paid by children between 3 and 15 .. £ .. ..	£	£	£
5. Total amount of periodical payments, equivalent to fees, by children between 3 and 15 .. £ .. ..	£	£	£
TOTAL.. .. .. £ .. .. ..	£	£	£

**XII.** If there has been any alteration of premises since the last Return, specify.

## INSTRUCTIONS AS TO CLAIMS FOR GRANT ON ACCOUNT OF INSTRUCTION IN SPECIAL SUBJECTS GIVEN BEFORE 31st JULY, 1905.

The following instructions are issued for the guidance of Local Education Authorities and Managers in filling up Forms 60, 60 A., and 60 B.

It was announced in Circular 519 that the introduction of a uniform Special Subjects Year would require the winding up of all courses of instruction in Special Subjects on July 31st, 1905, and that grant would become due at the latest on August 1st, 1905, for instruction given before that date.

The Code of 1905 carries out this arrangement, but provides that, with the consent of the Board, a course to be given mainly after August 1st, 1905, may begin before that date. The instruction given before August 1st, 1905, in cases where the special consent is given, will, however, be carried forward, to be claimed for as if given in the year ending July 31st, 1906, and therefore must be excluded from all claims now made. Unless this special consent is given, courses begun before 1st August, 1905, should have been wound up before that date, and a claim should now be made.

Circular 519 discusses in detail the various cases that arise in introducing the uniform Special Subjects Year from 1st August, 1905. It will be seen by reference to it that in many cases two claims will be required in order to wind up the existing system. The periods for which the respective claims are to be made are explained below.

Where a uniform Special Subjects Year was introduced from 1st August, 1904, the claim will be for a year, viz. that ending on July 31st, 1905, and should be presented on Form 60 B.

In all other cases Form 60 or Form 60 A. should be used as follows:—

A.—Where the course of instruction has followed the School Year:

(a) A claim for instruction in a School Year completed on or before July 31st, 1905, should be presented on Form 60, and line A. on page 1 should be filled; and

(b) if that School Year ends before July 31st, 1905, any claim which may be made for instruction given after the end of the School Year and before August 1st, 1905, should be presented on Form 60 A., and line E. should be filled.

B.—Where the course of instruction has followed an Educational Year different from the School Year:

(c) A claim for instruction in an Educational Year ending on or before July 31st, 1905, should be presented on Form 60 if a School Year begins after the end of the Educational Year, and on or before the 1st August, 1905, and line B. should be filled; otherwise Form 60 A. should be used and line D. should be filled.

(d) If that Educational Year ended before July 31st, 1905, any claim which may be made for instruction after the end of the Educational Year and before August 1st, 1905, should be made on Form 60 A., line E. being used; except in the case where a School Year ends on July 31st, in which case Form 60 should be used, line C. being filled.

C.—Where a uniform Special Subjects Year from a date other than 1st August has been introduced:

(e) In the cases where a uniform Special Subjects Year from a date other than 1st August has been introduced, there may be a claim for a period of less than twelve months intervening between the end of the School Year or old Educational Year and the end of the uniform Special Subjects Year.

The proper form to use in that case will be Form 60 if the beginning of a School Year happens after the beginning of the Special Subjects Year and on or before August 1st, 1905; otherwise Form 60 A. should be used. In such cases line C. on Form 60 or line E. on Form 60 A. should be filled.

There may also be in these cases a claim for a further short period ending July 31st, 1905. (See (d) above.)

**Forms 60, 60 A, and 60 B supersede Original Form 60.**

**NOTE.**—This Form (1) is only to be used in respect of instruction given before 1st August, 1905; and (2) is only to be used where the instruction has been given in accordance with the Code of 1903, and the Grant is payable with the ordinary Annual Grant for a School Year ending on or before 31st July, 1905. Separate Forms are provided for use in the cases in which the claim relates to (a) instruction given under the Code of 1903 during a period ending in a School Year which ends after 31st July, 1905 (Form 60 A); or (b) instruction given under the Code of 1904 during a uniform Special Subjects Year from 1st August, 1904, to 31st July, 1905 (Form 60 B).

## BOARD OF EDUCATION.

**Form 60.****SPECIAL SUBJECTS SCHEDULE.**

(To be filed with Form 9.)

School _____	No. _____								
Local Education Authority _____									
Claim for <table border="0" style="margin-left: 100px;"> <tr> <td>A. School Year ended _____, 190</td> <td>.</td> </tr> <tr> <td>B. Old Educational Year ended _____, 190</td> <td>.</td> </tr> <tr> <td>C. Period from _____ 190 , to _____ 190 .</td> <td></td> </tr> <tr> <td colspan="2" style="text-align: center;">(End of School Year or old Educational Year.)      (Beginning of new Educational Year.)</td> </tr> </table>		A. School Year ended _____, 190	.	B. Old Educational Year ended _____, 190	.	C. Period from _____ 190 , to _____ 190 .		(End of School Year or old Educational Year.)      (Beginning of new Educational Year.)	
A. School Year ended _____, 190	.								
B. Old Educational Year ended _____, 190	.								
C. Period from _____ 190 , to _____ 190 .									
(End of School Year or old Educational Year.)      (Beginning of new Educational Year.)									

**NOTE.**—A Claim may not be made under C for a period ending between 1st March and 1st July, 1905 (see Circular 519).

**INSTRUCTIONS.**

1. Two of the three lines A, B, C, above must be struck out, in order to show for what period the grant is claimed.
2. No attendance is to be counted for a scholar while under 11 years of age (or 12 years in the case of Household Management\*) or while over 15 years of age, or while habitually employed as a monitor.
3. No attendance made outside the period mentioned above is to be counted.
4. No grant is to be claimed for Cookery, Laundry Work, or Dairy Work in respect of any scholar for whom a grant for Household Management is claimed.
5. No scholar is to be entered more than once. (If, e.g., grants both for Cookery and for Laundry Work are claimed for one scholar, the entries must be made on one line, opposite the name of the scholar.)
6. If a proportionate grant is claimed for the period marked C above, the Supplementary Schedule below is to be filled up.

**SUPPLEMENTARY SCHEDULE** (to be filled up where a proportionate grant is claimed for period marked C above).

SUBJECT.	Cookery.	Laundry Work.	Dairy Work.	Cottage Gardening.
No. of Lessons in a normal and complete course				
No. of Lessons actually given in the period to which the claim relates				

\* Or in the case of Cookery for Boys.

I.	II.	III.	IV.	V.	VI.	VII.	
Number.	Name.	Date of Birth.	Cookery.	Laundry Work.	Dairy Work.	Cottage Gardening.	Household Management.
1	Enter in alphabetical order with Surname first.		No. of Hours of Attendance. At Demonstations. Spent in Cooking. Total.	No. of Hours of Attendance. Spent in Practical Laundry Work. Total Number.	No. of Lessons Attended.	No. of Hours of Attendance.	No. of Hours of Attendance.
2							
3							
4							
&c.							

## CERTIFICATE.

We, being three Managers of the above School and the Clerk of the Local Education Authority or the Secretary of their Education Committee, hereby certify, as regards the period mentioned above, that—

- (i.) The admission and daily attendance of the scholars have been carefully registered by, or under the supervision of, the Head Teacher, and have been duly verified from time to time by the Managers;

(ii.) The particulars contained in this return have been made out in accordance with the instructions on page 1 of this Form, and are true to the best of our belief.

\_\_\_\_\_  
\_\_\_\_\_  
} School  
Managers.

{ Clerk or other authorised officer of  
{ Local Education Authority.

Forms 60, 60 A, and 60 B supersede Original Form 60.

**NOTE.**—This Form (1) is only to be used in respect of instruction given before 1st August, 1905; and (2) is only to be used where the instruction has been given in accordance with the Code of 1903, during a period different from the School Year, and the end of that period falls in a School Year ending after 31st July, 1905. Separate Forms are provided for use in the cases in which the claim relates to (a) instruction given under the Code of 1903 during a period ending in a School Year which ends on or before 31st July, 1905 (Form 60); or (b) instruction given under the Code of 1904 during a uniform Special Subjects Year from 1st August, 1904, to 31st July, 1905 (Form 60 B).

BOARD OF EDUCATION

**Form 60 A.**

**CLAIM FOR GRANT FOR SPECIAL INSTRUCTION**

School No.

Local Education Authority

**PERIOD TO WHICH CLAIM RELATES.**

D. Old Educational Year ended , 190 .

108

E. Period from 190, to 190.  
(End of School Year or old Educational Year.) Beginning of new Educational Year.)

**NOTICE.**—A Claim may not be made under E for a period ending between 1st March and 1st July, 1905 (see Circular 519).

## **INSTRUCTIONS.**

1. One of the two lines D, E, above, must be struck out, in order to show for what period the grant is claimed.
  2. No attendance is to be counted for a scholar while under 11 years of age (or 12 years in the case of Household Management\*), or while over 15 years of age, or while habitually employed as a Monitor.
  3. No attendance made outside the period mentioned above is to be counted.
  4. No grant is to be claimed for Cookery, Laundry work, or Dairy Work in respect of any scholar for whom a grant for Household Management is claimed.
  5. No scholar is to be entered more than once. (If, e.g., grants both for Cookery and for Laundry Work are claimed for one scholar, the entries must be made on one line, opposite the name of the scholar.)
  6. If a proportionate grant is claimed for the period marked E above, particulars must be given under (II.) on the next page.

**CERTIFICATE.**

We, being three Managers of the above School and the Clerk of the Local Education Authority or the Secretary of their Education Committee, hereby certify, as regards the period mentioned above, that—

- (i.) The School has been conducted as a Public Elementary School in accordance with the conditions expressly required by the Education Acts to be fulfilled in order that an annual Parliamentary Grant may be payable;

(ii.) The admission and daily attendance of the scholars have been carefully registered by, or under the supervision of, the Head Teacher, and have been duly verified from time to time by the Managers;

(iii.) The particulars contained in this return have been made out in accordance with the above instructions, and are true to the best of our belief.

School  
Managers.

{ Clerk or other authorised officer of  
Local Education Authority.

(I.) CENTRE FOR INSTRUCTION, OR NAME AND QUALIFICATION OF TEACHER.

Subject.	Centre at which taught.	If Subject was not taught at Centre, Name and Qualification of Teacher.†
Cookery ... ... ...		
Laundry Work ... ...		
Dairy Work ... ...		
Cottage Gardening ...		
Household Management		

\* Or in the case of Cookery for Boys.

+ If the Teacher holds a Special Certificate, state name of Training School and date of Certificate.

(II.) PARTICULARS AS TO ANY COURSE NOT COMPLETED WITHIN THE PERIOD  
MARKED E ON PAGE 1.

SUBJECT.	Cookery.	Laundry Work.	Dairy Work.	Cottage Gardening.
No. of Lessons in a normal and complete course				
No. of Lessons actually given in the period to which the claim relates				

## (III.) LIST OF SCHOLARS.

I.	II.	III.	IV.	V.	VI.	VII.	
Number.	NAME. Enter in alphabetical order with Surname first.	Date of Birth.	Cookery.	Laundry Work.	Dairy Work.	Cottage Gardening	Household Management.
			No. of Hours of Attendance.	No. of Hours of Attendance.	No. of Lessons Attended.	No. of Hours of Attendance.	No. of Hours of Attendance.
At Demonstrations.	Spent in Cookery.	Total.	Spent in Practical Laundry Work.	Total Number.			
1							
2							
3							
4							
&c.							

**Forms 60, 60 A, and 60 B supersede Original Form 60.**

**NOTE.**—This Form is only to be used where the Local Education Authority introduced a uniform Special Subjects year beginning 1st August, 1904, and the instruction has been given in accordance with Schedule III. of the Code of 1904. Separate Forms (60, 60 (M.I.), 60A and 60A (M.I.)) are provided for use in the cases in which the instruction has been given under the Code of 1903.

BOARD OF EDUCATION.

**Form 60 B.****CLAIM FOR GRANT FOR SPECIAL INSTRUCTION.**

SPECIAL SUBJECTS YEAR ENDING 31ST JULY, 1905.

School \_\_\_\_\_ No. \_\_\_\_\_

Local Education Authority \_\_\_\_\_

## INSTRUCTIONS.

1. No attendance is to be counted for a scholar while under the minimum age, or while over 15 years of age, or while habitually employed as a monitor. The minimum age is 11 in the case of Cookery (Girls), Dairy Work, Laundry Work and Gardening, and 12 in the case of Cookery (Boys), Handicraft and Household Management.
  2. No attendance made outside the period mentioned above is to be counted.
  3. No grant is to be claimed for Cookery, Laundry Work, or Dairy Work in respect of any scholar for whom a grant for Household Management is claimed.
  4. No scholar is to be entered more than once. (If, e.g., grants both for Cookery and for Laundry Work are claimed for one scholar, the entries must be made on one line, opposite the name of the scholar.)

**CERTIFICATE.**

We, being three Managers of the above School and the Clerk or other authorised officer of the Local Education Authority, hereby certify, as regards the period mentioned above, that—

- (i.) The School has been conducted as a Public Elementary School in accordance with the conditions expressly required by the Education Acts to be fulfilled in order that an Annual Parliamentary Grant may be payable;
  - (ii.) The admission and daily attendance of the scholars have been carefully registered by, or under the supervision of, the Head Teacher, and have been duly verified from time to time by the Managers;
  - (iii.) The instruction has been given according to the regulations laid down in Schedule III. of the Code of 1904;
  - (iv.) The particulars contained in this return have been made out in accordance with the above instructions, and are true to the best of our belief.

{ Clerk or other authorised officer  
of Local Education Authority.

(I.) CENTRE FOR INSTRUCTION, OR NAME AND QUALIFICATION OF TEACHER.

Subject.	Centre at which taught.	If not taught at Centre, Name and Qualification of Teacher.*
Handicraft ... ...		
Gardening ... ...		
Cookery ... ...		
Laundry Work ...		
Dairy Work ...		
Household Management		

\* If the Teacher holds a Special Certificate, state name of Training School and date of Certificate.

## (II.) LIST OF SCHOLARS.

I.	II.	III.	IV.	V.	VI.	VII.	VIII.		
Number.	NAME. Enter in alphabetical order with Surname first.	Date of Birth.	Cookery.	Laundry Work.	Dairy Work.	Gardening.		Handi- craft.	House- hold Manage- ment.
						Short Course.	Long Course.		
1									
2									
3									
4									
&c.									

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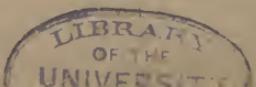
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